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OM protein - protein search, using sw model

Run on: March 16, 2005, 12:20:02 ; Search time 101.333 Seconds  
(without alignments)  
103.051 Million cell updates/sec

Title: US-10-822-677-12  
Perfect score: 130  
Sequence: 1 HSDGTFSTSELSRLRESARLQRLQLV 27

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : A\_Geneseq\_16Dec04:\*  
1: geneseqp1980s:\*  
2: geneseqp1990s:\*  
3: geneseqp2000s:\*  
4: geneseqp2001s:\*  
5: geneseqp2002s:\*  
6: geneseqp2003as:\*  
7: geneseqp2003bs:\*  
8: geneseqp2004s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query		DB	ID	Description
		Match	Length			
1	130	100.0	27	4	AAB91259	Aab91259 Secretin
2	130	100.0	27	6	ABR40227	Abr40227 Canine se
3	127	97.7	27	1	AAP20383	Aap20383 Protected
4	127	97.7	27	1	AAP20398	Aap20398 Secretin
5	127	97.7	27	1	AAP30021	Aap30021 Synthetic
6	127	97.7	27	1	AAP30014	Aap30014 27-Desami
7	127	97.7	27	1	AAP30038	Aap30038 Pig Secre
8	127	97.7	27	2	AAW37793	Aaw37793 Porcine s
9	127	97.7	27	2	AAW71676	Aaw71676 Secretin-

10	127	97.7	27	2	AA50236	Aay50236	Neutrophil
11	127	97.7	27	4	AAB70901	Aab70901	Porcine s
12	127	97.7	27	4	AAB91262	Aab91262	Secretin
13	127	97.7	27	4	AAB50844	Aab50844	Pig prote
14	127	97.7	27	5	AAE23673	Aae23673	Heptacosyl
15	127	97.7	27	5	ABB06679	Abb06679	Mammalian
16	127	97.7	27	5	AAE23659	Aae23659	Heptacosyl
17	127	97.7	27	5	ABB08014	Abb08014	Human sec
18	127	97.7	27	5	ABB04453	Abb04453	Secretin
19	127	97.7	27	5	ABB81203	Abb81203	Secretin
20	127	97.7	27	6	ABR40226	Abr40226	Porcine s
21	127	97.7	27	6	ABP56898	Abp56898	Secretin
22	127	97.7	27	7	ADD69986	Add69986	Vasoactiv
23	127	97.7	27	8	ADP74185	Adp74185	Secretin
24	127	97.7	28	1	AAP30063	Aap30063	Recombina
25	127	97.7	28	1	AAP30062	Aap30062	27-desami
26	127	97.7	33	1	AAP70421	Aap70421	Sequence
27	126	96.9	27	1	AAP60647	Aap60647	Secretin
28	126	96.9	27	2	AAR93024	Aar93024	Human glu
29	126	96.9	27	3	AAB08187	Aab08187	Amino aci
30	126	96.9	27	4	AAB70890	Aab70890	Human sec
31	126	96.9	27	4	AAB91261	Aab91261	Secretin
32	126	96.9	27	5	AAU85988	Aau85988	Modified
33	126	96.9	27	6	ABR40225	Abr40225	Human sec
34	126	96.9	27	7	ADC87728	Adc87728	Human sec
35	126	96.9	27	8	ADN03397	Adn03397	Exemplary
36	126	96.9	27	8	ADR42232	Adr42232	Secretin
37	126	96.9	28	1	AAP91869	Aap91869	Human sec
38	126	96.9	31	1	AAP90130	Aap90130	Human sec
39	126	96.9	121	5	AAO21664	Aao21664	Human sec
40	123	94.6	27	4	AAB91263	Aab91263	Secretin
41	122	93.8	27	2	AAW37796	Aaw37796	Porcine s
42	120	92.3	27	1	AAP30049	Aap30049	Intermedi
43	120	92.3	27	6	ABU07569	Abu07569	Human sec
44	119	91.5	27	1	AAP30551	Aap30551	Sequence
45	117	90.0	30	1	AAP60646	Aap60646	Mammalian

#### ALIGNMENTS

##### RESULT 1

AAB91259

ID AAB91259 standard; peptide; 27 AA.

XX

AC AAB91259;

XX

DT 22-JUN-2001 (first entry)

XX

DE Secretin peptide SEQ ID NO:435.

XX

KW Protection; endogenous therapeutic peptide; peptidase; conjugation;

KW blood component; modification; succinimidyl; maleimido group; amino;

KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.

XX

OS Homo sapiens.

OS Synthetic.

XX  
 PN WO200069900-A2.  
 XX  
 PD 23-NOV-2000.  
 XX  
 PF 17-MAY-2000; 2000WO-US013576.  
 XX  
 PR 17-MAY-1999; 99US-0134406P.  
 PR 10-SEP-1999; 99US-0153406P.  
 PR 15-OCT-1999; 99US-0159783P.  
 XX  
 PA (CONJ-) CONJUCHEM INC.  
 XX  
 PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudau K;  
 XX  
 DR WPI; 2001-112059/12.  
 XX  
 PT Modifying and attaching therapeutic peptides to albumin prevents  
 PT peptidase degradation, useful for increasing length of in vivo activity.  
 XX  
 PS Disclosure; Page 340; 733pp; English.  
 XX  
 CC The present invention describes a modified therapeutic peptide (I)  
 CC comprising a therapeutically active amino acid region (III) and a  
 CC reactive group (II) (e.g. succinimidyl and maleimido groups) attached to  
 CC a less therapeutically active amino acid region (IV), which covalently  
 CC bonds with amino/hydroxyl/thiol groups on blood components to form a  
 CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.  
 CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth  
 CC factors and neurotransmitters, to protect them from peptidase activity in  
 CC vivo for the treatment of various disorders. Endogenous therapeutic  
 CC peptides are not suitable as drug candidates as they require frequent  
 CC administration due to rapid degradation by peptidases in the body.  
 CC Modifying and attaching therapeutic peptides to albumin prevents or  
 CC reduces the action of peptidases to increase length of activity (half  
 CC life) and specificity as bonding to large molecules decreases  
 CC intracellular uptake and interference with physiological processes.  
 CC AAB90829 to AAB92441 represent peptides which can be used in the  
 CC exemplification of the present invention  
 XX  
 SQ Sequence 27 AA;

Query Match 100.0%; Score 130; DB 4; Length 27;  
 Best Local Similarity 100.0%; Pred. No. 1e-11;  
 Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
 ||||||||||||||||||||  
 Db 1 HSDGTFTSELSRLRESARLQRLQLV 27

RESULT 2  
 ABR40227  
 ID ABR40227 standard; peptide; 27 AA.  
 XX  
 AC ABR40227;  
 XX

DT 12-JUN-2003 (first entry)  
 XX  
 DE Canine secretin.  
 XX  
 KW Dog; asthma; anion efflux; secretin receptor; antiasthmatic; secretin.  
 XX  
 OS Canis sp.  
 XX  
 PN WO2003011327-A2.  
 XX  
 PD 13-FEB-2003.  
 XX  
 PF 26-JUL-2002; 2002WO-GB003433.  
 XX  
 PR 27-JUL-2001; 2001GB-00018383.  
 XX  
 PA (PHAR-) PHARMAGENE LAB LTD.  
 XX  
 PI Davis RJ, Clark K;  
 XX  
 DR WPI; 2003-248115/24.  
 XX  
 PT Treating asthma in a patient suffering from asthma, by administering to  
 PT the patient an agent e.g., secretin which triggers anion efflux in  
 PT respiratory tissue by the activation of a secretin receptor.  
 XX  
 PS Disclosure; Fig 1; 40pp; English.  
 XX  
 CC The invention relates to a novel method for treating asthma in a patient  
 CC suffering from asthma, involving administering to the patient an  
 CC effective amount of an agent which triggers anion efflux in respiratory  
 CC tissue by the activation of a secretin receptor. The method of the  
 CC invention has antiasthmatic activity. The method is useful for treating  
 CC asthma in a patient. The present sequence is used in the exemplification  
 CC of the invention  
 XX  
 SQ Sequence 27 AA;

Query Match 100.0%; Score 130; DB 6; Length 27;  
 Best Local Similarity 100.0%; Pred. No. 1e-11;  
 Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
 ||||||||||||||||||||||||||||  
 Db 1 HSDGTFTSELSRLRESARLQRLQGLV 27

# RESULT 3

AAP20383

ID AAP20383 standard; peptide; 27 AA.

XX

AC AAP20383;

XX

DT 25-MAR-2003 (revised)

DT 30-NOV-1992 (first entry)

XX

DE Protected heptacosapeptide.

XX  
 KW Secretin; pancreatic juices; gastric juices.  
 XX  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FT Modified-site 1  
 FT /note= "p-amethoxybenzyloxycarbonyl-protected"  
 FT Modified-site 12  
 FT /note= "NG-mesitylene sulphonylarginine"  
 FT Modified-site 14  
 FT /note= "NG-mesitylene sulphonylarginine"  
 FT Modified-site 18  
 FT /note= "NG-mesitylene sulphonylarginine"  
 FT Modified-site 21  
 FT /note= "NG-mesitylene sulphonylarginine"  
 XX  
 PN JP56158747-A.  
 XX  
 PD 07-DEC-1981.  
 XX  
 PF 12-MAY-1980; 80JP-00063174.  
 XX  
 PR 12-MAY-1980; 80JP-00063174.  
 XX  
 PA (NNSH ) NIPPON SHINYAKU CO LTD.  
 XX  
 DR WPI; 1982-04870E/03.  
 XX  
 PT Para:methoxy:benzyloxy:carbonyl protected heptacosapeptide - is  
 PT intermediate for secretin, which e.g. stimulates pancreatic juices.  
 XX  
 PS Claim 1; Page 1; 5pp; Japanese.  
 XX  
 CC The sequence given is a heptacosapeptide which can be used as a precursor  
 CC for secretin production. Secretin is a digestive tract enzyme which has  
 CC physiological actions such as pancreatic juice secretion-stimulating  
 CC action and gastric juice secretion-inhibiting action. The  
 CC heptacosapeptide can be converted to secretin by treating it with  
 CC CF3SO3H. This yields large amounts of high purity secretin in a short  
 CC time. (Updated on 25-MAR-2003 to correct PR field.) (Updated on 25-MAR-  
 CC 2003 to correct PA field.)  
 XX  
 SQ Sequence 27 AA;  
  
 Query Match 97.7%; Score 127; DB 1; Length 27;  
 Best Local Similarity 96.3%; Pred. No. 2.8e-11;  
 Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;  
  
 Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
 |||||:|||||  
 Db 1 HSDGTFTSELSRLRDSARLQRLQLV 27

RESULT 4  
 AAP20398  
 ID AAP20398 standard; peptide; 27 AA.

XX  
 AC AAP20398;  
 XX  
 DT 25-MAR-2003 (revised)  
 DT 30-NOV-1992 (first entry)  
 XX  
 DE Secretin precursor peptide.  
 XX  
 KW Strong acid; digestive canal hormone; pancreas; gastrin; pepsin; insulin.  
 XX  
 OS Synthetic.  
 XX  
 FH Key Location/Qualifiers  
 FT Modified-site 1  
 FT /note= "Boc protected"  
 FT Modified-site 2  
 FT /note= "But protected"  
 FT Modified-site 3  
 FT /note= "OBut protected"  
 FT Modified-site 5  
 FT /note= "But protected"  
 FT Modified-site 7  
 FT /note= "But protected"  
 FT Modified-site 8  
 FT /note= "But protected"  
 FT Modified-site 9  
 FT /note= "OBut protected"  
 FT Modified-site 11  
 FT /note= "But protected"  
 FT Modified-site 12  
 FT /note= "PhSO2 ring substd. by 1, 2 or 3 alkyl or alkoxy  
 FT gps."  
 FT Modified-site 14  
 FT /note= "PhSO2 ring substd. by 1, 2 or 3 alkyl or alkoxy  
 FT gps."  
 FT Modified-site 15  
 FT /note= "OBut protected"  
 FT Modified-site 16  
 FT /note= "But protected"  
 FT Modified-site 18  
 FT /note= "PhSO2 ring substd. by 1, 2 or 3 alkyl or alkoxy  
 FT gps."  
 FT Modified-site 21  
 FT /note= "PhSO2 ring substd. by 1, 2 or 3 alkyl or alkoxy  
 FT gps."  
 XX  
 PN EP47997-A.  
 XX  
 PD 24-MAR-1982.  
 XX  
 PF 11-SEP-1981; 81EP-00107186.  
 XX  
 PR 11-SEP-1980; 80JP-00125262.  
 XX  
 PA (EISA ) EISAI CO LTD.  
 XX  
 PI Uchiyama M, Sato T, Yoshino H, Tsuchiya Y, Konishi M, Tsujii M;

PI Hisatake Y, Koiwa A;  
XX  
DR WPI; 1982-24409E/13.  
XX  
PT Heptacosapeptide(s) - useful for high yield conversion to high purity  
PT secretin on strong acid treatment.  
XX  
PS Claim 1; Page 43; 47pp; English.  
XX  
CC The sequence in AAP20398 is a precursor for the production of secretin.  
CC The peptide sequences given in AAP20399-402 are peptides which are useful  
CC in the production of this precursor. The precursor is treated with strong  
CC acid in the preparation of secretin. Secretin is one of the digestive  
CC canal hormones and is useful in promotion of pancreatic external  
CC secretin, controlling gastrin-stimulating secretin of the stomach acid,  
CC releasing insulin, stimulating secretin of pepsin and decomposing fat. It  
CC is used as a pancreatic-function examining agent and a medicine for  
CC curing duodenal ulcers etc. (Updated on 25-MAR-2003 to correct PA field.)  
XX  
SQ Sequence 27 AA;

Query Match 97.7%; Score 127; DB 1; Length 27;  
Best Local Similarity 96.3%; Pred. No. 2.8e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
|||||||:|||||||  
Db 1 HSDGTFTSELSRLRDSARLQRLQLV 27

RESULT 5

AAP30021

ID AAP30021 standard; peptide; 27 AA.

XX

AC AAP30021;

XX

DT 25-MAR-2003 (revised)

DT 03-SEP-1992 (first entry)

XX

DE Synthetic secretin.

XX

KW Pharmaceutically; deprotection; digestive; hormone; pancreatism;  
KW duodenal ulcer.

XX

OS Synthetic.

XX

PN JP58144355-A.

XX

PD 27-AUG-1983.

XX

PF 22-FEB-1982; 82JP-00026088.

XX

PR 22-FEB-1982; 82JP-00026088.

XX

PA (EISA ) EISAI CO LTD.

XX

DR WPI; 1983-779933/40.

XX  
PT Pharmaceutically active secretin - prepd. by removing protective Gp. from  
PT heptacosapeptide.  
XX  
PS Claim 3; Page 2; 13pp; Japanese.  
XX  
CC Secretin, which has hitherto been produced by extraction from porcine  
CC duodenum, may be produced by standard solid phase synthesis. Secretin is  
CC a digestive tract hormone with many useful pharmaceutical actions such as  
CC pancreatic secretion promotion, gastrin stimulation, gastric acid  
CC secretion inhibition, insulin release, stimulation of pepsin secretion  
CC and lipolytic action. It is useful as a reagent for test on pancreatism  
CC and as a remedy for duodenal ulcers. (Updated on 25-MAR-2003 to correct  
CC PR field.) (Updated on 25-MAR-2003 to correct PA field.)  
XX  
SQ Sequence 27 AA;

Query Match 97.7%; Score 127; DB 1; Length 27;  
Best Local Similarity 96.3%; Pred. No. 2.8e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
| | | | | | | | | | : | | | | | | | | | |  
Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 6  
AAP30014

ID AAP30014 standard; peptide; 27 AA.  
XX  
AC AAP30014;  
XX  
DT 25-MAR-2003 (revised)  
DT 11-SEP-1992 (first entry)  
XX  
DE 27-Desamidosecretin.  
XX  
KW Diagnosis; duodenal ulcer; pancreas.  
XX  
OS Synthetic.  
XX  
PN JP57200343-A.  
XX  
PD 08-DEC-1982.  
XX  
PF 02-JUN-1981; 81JP-00084603.  
XX  
PR 02-JUN-1981; 81JP-00084603.  
PR 02-JUN-1981; 81JP-00106607.  
PR 04-FEB-1982; 82JP-00016734.  
XX  
PA (WAKI-) WAKINAGA YAKUHHN KK.  
XX  
DR WPI; 1983-08056K/04.  
XX  
PT 27-Des-amido-secretin prepd. by recombinant DNA techniques - useful as  
PT diagnostic agent for pancreatic function or drug for treating duodenal



PT ulcers.  
XX  
PS Claim 1; Page 1; 15pp; Japanese.  
XX  
CC Prodn. of the peptide comprises chemical synthesis of the peptide  
CC expression gene, introduction of the gene into a plasmid capable of  
CC growing in a host microorganism, thereby giving a chimeric plasmid which  
CC can grow in the microorganism, transformation of the host cell by the  
CC plasmid and cultivation of the resultant transformant and recovery of the  
CC peptide. The peptide is useful as a diagnostic agent for pancreatic  
CC function or as a drug for treatment of duodenum tumour. The peptide is  
CC produced by recombinant DNA technique in good yield on large scale with  
CC low cost. (Updated on 25-MAR-2003 to correct PR field.)  
XX  
SQ Sequence 27 AA;

Query Match 97.7%; Score 127; DB 1; Length 27;  
Best Local Similarity 96.3%; Pred. No. 2.8e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLGLV 27  
|||||||:|||||||  
Db 1 HSDGTFTSELSRLRDSARLQRLQLGLV 27

RESULT 7

AAP30038

ID AAP30038 standard; peptide; 27 AA.

XX

AC AAP30038;

XX

DT 25-MAR-2003 (revised)

DT 04-SEP-1992 (first entry)

XX

DE Pig Secretin.

XX

KW Porcine; digestive; hormone; pancreatic; duodenal ulcer.

XX

OS Sus scrofa.

XX

FH Key Location/Qualifiers

FT Modified-site 27

FT /label= Val-X

FT /note= "X= NH2"

XX

PN JP58152852-A.

XX

PD 10-SEP-1983.

XX

PF 05-MAR-1982; 82JP-00034027.

XX

PR 05-MAR-1982; 82JP-00034027.

XX

PA (EISA ) EISAI CO LTD.

XX

DR WPI; 1983-791975/42.

XX

PT Deca:peptide useful as intermediate for secretin - contains histidine,  
PT serine, aspartic acid, glycine, threonine, phenylalanine, glutamic acid  
PT and leucine.  
XX  
PS Disclosure; Page 1; 13pp; Japanese.  
XX  
CC The peptide, secretin, may be isolated from pigs by standard methods.  
CC Alternatively the peptide may be produced by synthetic intermediates.  
CC Secretin is a digestive tract hormone. It displays pancreatic  
CC exocrinogenic, gastrin stimulating, gastric acid secretion inhibiting,  
CC insulin releasing, pepsin secretion promoting and adipolytic action. See  
CC also AAP30039. (Updated on 25-MAR-2003 to correct PR field.) (Updated on  
CC 25-MAR-2003 to correct PA field.)  
XX  
SQ Sequence 27 AA;

Query Match 97.7%; Score 127; DB 1; Length 27;  
Best Local Similarity 96.3%; Pred. No. 2.8e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HSDGTFTSELSRLRESARLQRLQLGLV 27  
|||||:|||||  
Db 1 HSDGTFTSELSRLRDSARLQRLQLGLV 27

# RESULT 8

AAW37793

ID AAW37793 standard; peptide; 27 AA.

XX

AC AAW37793;

XX

DT 28-JUL-1998 (first entry)

XX

DE Porcine secretin peptide.

XX

KW Porcine secretin; vasoactive intestinal polypeptide-1 receptor;  
KW VIP-1 receptor; peptidic ligand; VIP-2 receptor; agonist; antagonist;  
KW bronchoconstrictive disorder; asthma; tumour; stroke; cancer;  
KW chronic obstructive pulmonary disease; myocardial infarction;  
KW gastroenterological disease; anti-inflammatory; cell growth;  
KW organ transplantation; cancer.

XX

OS Sus scrofa.

XX

FH Key Location/Qualifiers

FT Modified-site 27

FT /label= Val

FT /note= "amidated"

XX

PN WO9802453-A2.

XX

PD 22-JAN-1998.

XX

PF 15-JUL-1997; 97WO-BE000084.

XX

PR 15-JUL-1996; 96EP-00870092.

PR 19-SEP-1996; 96EP-00870121.

XX  
PA (ULBR ) UNIV LIBRE BRUXELLES.  
XX  
PI Gourlet P, Robberecht P, Vandermeers A, Woelbroeck M;  
XX  
DR WPI; 1998-110523/10.  
XX  
PT New ligands for vasoactive intestinal peptide receptor - is useful for  
PT treating VIP-related disorders, e.g. asthma, tumours, myocardial  
PT infarction, stroke, inflammation or auto-immune disease.  
XX  
PS Example 1; Page 18; 38pp; English.  
XX  
CC This is the amino acid sequence of a porcine secretin, used as a  
CC comparison for the vasoactive intestinal polypeptide (VIP) in the method  
CC of the invention. VIP has two distinct receptors with seven transmembrane  
CC helices named VIP-1 and VIP-2. The method of the invention involves the  
CC development of peptidic ligands that can be used in the treatment of  
CC bronchoconstrictive disorders, e.g. asthma, chronic obstructive pulmonary  
CC disease (COPD), tumours, myocardial infarctions, strokes, the  
CC regeneration of nerves as in post-traumatic injury, as anti-inflammatory  
CC and anti-oxidant agent, to increase cell growth, as immuno-modulation  
CC agent in the treatment of auto-immune diseases and for reducing side  
CC effects in organ transplantation. They can also be used for detection and  
CC diagnosis, e.g. for the identification of specific cancers such as breast  
CC and prostate cancers, lung cancers, ovarian cancers and colon cancers.  
CC The ligands can also be used for the identification of other ligands of  
CC the VIP1 receptor  
XX  
SQ Sequence 27 AA;

Query Match 97.7%; Score 127; DB 2; Length 27;  
Best Local Similarity 96.3%; Pred. No. 2.8e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLGLV 27  
|||||||:|||||||  
Db 1 HSDGTFTSELSRLRDSARLQRLQLGLV 27

# RESULT 9

AAW71676

ID AAW71676 standard; peptide; 27 AA.

XX

AC AAW71676;

XX

DT 11-JAN-1999 (first entry)

XX

DE Secretin-derived target peptide.

XX

KW Calmodulin; green fluorescent protein; GFP; cameleon;

KW fluorescence resonance energy transfer; FRET; calcium; sensor; analysis;

KW assay; secretin.

XX

OS Synthetic.

XX

PN WO9840477-A1.

XX  
PD 17-SEP-1998.  
XX  
PF 13-MAR-1998; 98WO-US004978.  
XX  
PR 14-MAR-1997; 97US-00818252.  
PR 14-MAR-1997; 97US-00818253.  
PR 27-AUG-1997; 97US-00919143.  
XX  
PA (REGC ) UNIV CALIFORNIA.  
XX  
PI Tsien RY, Miyawaki A;  
XX  
DR WPI; 1998-520809/44.  
XX  
PT New fluorescent protein sensors for detection of analytes - comprises a  
PT binding protein moiety having an analyte binding region and bound donor  
PT and acceptor fluorescent protein moieties.  
XX  
PS Disclosure; Page 21; 108pp; English.  
XX  
CC This peptide represents a target moiety from secretin that is recognised  
CC by calmodulin. The invention provides fluorescent indicators and methods  
CC for using them to determine the concentration of an analyte, such as  
CC calcium ion, in vitro and in vivo. Fluorescent indicators include a  
CC binding protein moiety (e.g. calmodulin) and donor and acceptor  
CC fluorescent protein moieties, preferably derived from Aequorea green  
CC fluorescent protein (see AAW71645-48). The binding protein preferably  
CC binds target peptides (see AAW71649-79) in addition to the analyte. The  
CC target peptide moieties can be modified to enhance the response of the  
CC fluorescent indicator to the analyte  
XX  
SQ Sequence 27 AA;

Query Match 97.7%; Score 127; DB 2; Length 27;  
Best Local Similarity 96.3%; Pred. No. 2.8e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
|||||||:|||||||  
Db 1 HSDGTFTSELSRLRDSARLQRLQLV 27

# RESULT 10

AA50236

ID AAY50236 standard; peptide; 27 AA.

XX

AC AAY50236;

XX

DT 12-JAN-2000 (first entry)

XX

DE Neutrophil-activating pancreatic derived peptide 36.

XX

KW Cell activation; pancreas; treatment; cardiovascular disease; trauma;  
KW inflammatory disease; autoimmune diseases; arthritis; diabetes; stroke;  
KW organ rejection; ischemia; Alzheimer's disease; myocardial infarction;  
KW haemorrhagic shock; diabetic retinopathy; venous insufficiency; angina;

KW trauma; protease inhibitor; hypertension; sepsis.  
 XX  
 OS Mus sp.  
 XX  
 PN WO9946367-A2.  
 XX  
 PD 16-SEP-1999.  
 XX  
 PF 11-MAR-1999; 99WO-US005247.  
 XX  
 PR 11-MAR-1998; 98US-00038894.  
 XX  
 PA (CELL-) CELL ACTIVATION INC.  
 PA (REGC ) UNIV CALIFORNIA.  
 PA (SCRI ) SCRIPPS RES INST.  
 XX  
 PI Stoughton RB, Schmid-Schonbein GW, Hugli TE, Kistler E;  
 XX  
 DR WPI; 1999-580234/49.  
 XX  
 PT Use of cell activating compositions in developing products for diagnosis  
 PT and treatment of e.g. cardiovascular, inflammatory, autoimmune or  
 PT Alzheimer's disease, trauma, arthritis, organ rejection, diabetes, stroke  
 PT or ischemia.  
 XX  
 PS Example 9; Page 182; 184pp; English.  
 XX  
 CC This invention describes a novel method for the use and preparation of  
 CC cell activating compositions which involves preparing a cell activating  
 CC composition comprising (a) homogenizing pancreatic tissue in buffer at  
 CC about neutral or higher pH to produce a homogenate; (b) removing  
 CC particulates from the homogenate; (c) optionally incubating the resulting  
 CC homogenate, with particulates removed, with a protease; and (d)  
 CC fractionating the homogenate and selecting fractions that exhibit cell  
 CC activation activity. The methods can be used for improving treatment  
 CC outcome or reducing risk of treatment of e.g. cardiovascular disease,  
 CC inflammatory disease, trauma, autoimmune diseases, arthritis, organ  
 CC rejection, diabetes and diabetic complications, stroke, ischemia,  
 CC Alzheimer's disease, myocardial infarction, haemorrhagic shock, diabetic  
 CC retinopathy, diabetes, venous insufficiency, unstable angina or trauma.  
 CC They can be used in the veterinary treatment of a non-human subject.  
 CC Protease inhibitors can be used to lower cell activation resulting from  
 CC these diseases and deficiencies. The detection of an elevated level of  
 CC hydrogen peroxide can be used to detect an inflammatory condition. An  
 CC elevated level of hydrogen peroxide in plasma or whole blood and in the  
 CC presence of superoxide dismutase (SOD) indicates leukocyte up regulation,  
 CC e.g. indicative of the onset of an acute cardiovascular disorders, such  
 CC as disease onset or ischemic complications. An elevated level of hydrogen  
 CC peroxide in plasma or whole blood and a low level in the presence of SOD  
 CC is indicative of a chronic or immune compromised condition e.g.  
 CC hypertension or sepsis. AAY50201-Y50334 represent peptides used in the  
 CC method of the invention  
 XX  
 SQ Sequence 27 AA;

Query Match 97.7%; Score 127; DB 2; Length 27;  
 Best Local Similarity 96.3%; Pred. No. 2.8e-11;

Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
|||||||:|||||||  
Db 1 HSDGTFTSELSRLRDSARLQRLQLV 27

RESULT 11

AAB70901

ID AAB70901 standard; peptide; 27 AA.

XX

AC AAB70901;

XX

DT 26-JUL-2001 (first entry)

XX

DE Porcine secretin peptide.

XX

KW Secretin; porcine; nootropic; autism; treatment; prevention.

XX

OS Sus scrofa.

XX

PN WO200132196-A1.

XX

PD 10-MAY-2001.

XX

PF 03-NOV-2000; 2000WO-EP010847.

XX

PR 05-NOV-1999; 99DE-01053339.

XX

PA (GOLD-) GOLDHAM PHARMA GMBH.

XX

PI Frank A, Jordan K, Hiebl W;

XX

DR WPI; 2001-335783/35.

XX

PT Pharmaceutical composition for selective treatment of autism, containing  
PT oligopeptide fragment of secretin, e.g. His-Ser-Asp-Gly-Thr-Phe-Thr-Ser.

XX

PS Disclosure; Page 13; 21pp; German.

XX

CC This invention describes novel pharmaceutical compositions containing at  
CC least one secretin peptide fragment having 4-15 (preferably 4-8) amino  
CC acids (optionally in acid addition salt form) and which have nootropic  
CC activity. The peptide fragments described in the invention (of any  
CC origin, e.g. derived from human, porcine, chicken or simian secretin)  
CC have a specific beneficial action in the treatment or prevention of  
CC autism. They are free of the other activities (e.g. gastrointestinal  
CC effects) of secretin itself. This sequence represents a porcine secretin  
CC peptide which can be used to generate the peptide fragments described in  
CC the method of the invention

XX

SQ Sequence 27 AA;

Query Match 97.7%; Score 127; DB 4; Length 27;

Best Local Similarity 96.3%; Pred. No. 2.8e-11;

Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
|||||||:|||||||  
Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 12

AAB91262

ID AAB91262 standard; peptide; 27 AA.

XX

AC AAB91262;

XX

DT 22-JUN-2001 (first entry)

XX

DE Secretin peptide SEQ ID NO:438.

XX

KW Protection; endogenous therapeutic peptide; peptidase; conjugation;  
KW blood component; modification; succinimidyl; maleimido group; amino;  
KW hydroxyl; thiol; hormone; growth factor; neurotransmitter.

XX

OS Homo sapiens.

OS Synthetic.

XX

PN WO200069900-A2.

XX

PD 23-NOV-2000.

XX

PF 17-MAY-2000; 2000WO-US013576.

XX

PR 17-MAY-1999; 99US-0134406P.

PR 10-SEP-1999; 99US-0153406P.

PR 15-OCT-1999; 99US-0159783P.

XX

PA (CONJ-) CONJUCHEM INC.

XX

PI Bridon DP, Ezrin AM, Milner PG, Holmes DL, Thibaudeau K;

XX

DR WPI; 2001-112059/12.

XX

PT Modifying and attaching therapeutic peptides to albumin prevents  
PT peptidase degradation, useful for increasing length of in vivo activity.

XX

PS Disclosure; Page 341; 733pp; English.

XX

CC The present invention describes a modified therapeutic peptide (I)  
CC comprising a therapeutically active amino acid region (III) and a  
CC reactive group (II) (e.g. succinimidyl and maleimido groups) attached to  
CC a less therapeutically active amino acid region (IV), which covalently  
CC bonds with amino/hydroxyl/thiol groups on blood components to form a  
CC peptidase stabilised therapeutic peptide composed of 3-50 amino acids.  
CC (I) are useful for modifying therapeutic peptides e.g. hormones, growth  
CC factors and neurotransmitters, to protect them from peptidase activity in  
CC vivo for the treatment of various disorders. Endogenous therapeutic  
CC peptides are not suitable as drug candidates as they require frequent  
CC administration due to rapid degradation by peptidases in the body.  
CC Modifying and attaching therapeutic peptides to albumin prevents or  
CC reduces the action of peptidases to increase length of activity (half  
CC life) and specificity as bonding to large molecules decreases

CC intracellular uptake and interference with physiological processes.  
CC AAB90829 to AAB92441 represent peptides which can be used in the  
CC exemplification of the present invention  
XX  
SQ Sequence 27 AA;

Query Match 97.7%; Score 127; DB 4; Length 27;  
Best Local Similarity 96.3%; Pred. No. 2.8e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
| | | | | : | | | | |  
Db 1 HSDGTFTSELSRLRDSARLQRLQLV 27

RESULT 13

AAB50844

ID AAB50844 standard; peptide; 27 AA.

XX

AC AAB50844;

XX

DT 14-MAR-2001 (first entry)

XX

DE Pig protein calmodulin-binding domain.

XX

KW Fluorescent protein indicator; green fluorescent protein; GFP;

KW linker moiety; sensor; calmodulin-binding domain.

XX

OS Sus scrofa.

XX

PN WO200071565-A2.

XX

PD 30-NOV-2000.

XX

PF 17-MAY-2000; 2000WO-US013684.

XX

PR 21-MAY-1999; 99US-00316919.

PR 21-MAY-1999; 99US-00316920.

XX

PA (REGC ) UNIV CALIFORNIA.

XX

PI Tsien RY, Baird GA;

XX

DR WPI; 2001-032017/04.

XX

PT Novel fluorescent proteins comprising a sensor protein inserted into  
PT them, useful for measuring the response of a sensor biological, chemical,  
PT electrical or physiological parameter in vivo or in vitro.

XX

PS Disclosure; Page 33; 94pp; English.

XX

CC The present sequence is a calmodulin-binding domain peptide used in the  
CC construction of a fluorescent protein indicator. The indicator comprises  
CC a sensor polypeptide that is responsive to a chemical, biological,  
CC electrical or physiological parameter, and a fluorescence protein  
CC functional group. The sensor polypeptide is operatively inserted into the  
CC fluorescent moiety. The fluorescent indicator is useful for detecting the





PT Human secretin receptor-like G-protein coupled receptor and  
PT polynucleotides useful for identifying modulating agents useful in  
PT treating diseases e.g. cancer, osteoporosis, asthma, obesity, Parkinson's  
PT disease.

XX

PS Disclosure; Fig 3; 125pp; English.

XX

CC The invention relates to secretin receptor-like GPCR (G protein-coupled  
CC receptor) polypeptide and its corresponding nucleic acid sequence. The  
CC polypeptide of the invention is used to treat obesity, diabetes,  
CC osteoporosis, anxiety, depression, hypertension, migraine, compulsive  
CC disorder, schizophrenia, autism, neurodegenerative disorders, cancer  
CC chemotherapy-induced vomiting, asthma, cardiovascular diseases e.g.  
CC congestive heart failure, ischaemic diseases of heart and central nervous  
CC system disorders e.g. Parkinson's disease, Alzheimer's disease. The  
CC sequences of the invention is used to detect agents that regulate the  
CC activity of secretin receptor-like GPCR. Fusion proteins comprising  
CC secretin receptor-like GPCR are useful for generating antibodies and for  
CC use in various assay systems, and the polypeptide of the invention is  
CC used as a bait protein in a two-hybrid assay or three-hybrid assay. The  
CC present sequence is a heptacosipeptide, secretin used in the invention

XX

SQ Sequence 27 AA;

Query Match 97.7%; Score 127; DB 5; Length 27;  
Best Local Similarity 96.3%; Pred. No. 2.8e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGFTTSELSRLRESARLQRLQLGLV 27

|||||||:|||||||

Db 1 HSDGFTTSELSRLRDSARLQRLQLGLV 27

#### RESULT 15

ABB06679

ID ABB06679 standard; peptide; 27 AA.

XX

AC ABB06679;

XX

DT 10-JUN-2002 (first entry)

XX

DE Mammalian VIP family peptide sequence SEQ ID NO:18.

XX

KW Amphibian; bombesin; gastrin-releasing peptide; GRP; GRF; litoenin;  
KW growth hormone releasing factor; cytostatic; antiarteriosclerotic;  
KW gastrointestinal; antidiabetic; ophthalmological; atherosclerosis;  
KW autocrine mitotic factor; paracrine mitotic factor; cancer; gastric;  
KW malignant proliferation; benign proliferation; pancreatic secretion;  
KW motility; amylase secretion suppression; appetite; muscular dystrophy;  
KW diabetes.

XX

OS Sus scrofa.

OS Bos taurus.

XX

FH Key Location/Qualifiers

FT Modified-site 27

FT /note= "amidated"

XX  
 PN US6307017-B1.  
 XX  
 PD 23-OCT-2001.  
 XX  
 PF 02-MAR-1999; 99US-00260846.  
 XX  
 PR 24-SEP-1987; 87US-00100571.  
 PR 25-MAR-1988; 88US-00173311.  
 PR 08-JUN-1988; 88US-00204171.  
 PR 16-JUN-1988; 88US-00207759.  
 PR 23-SEP-1988; 88US-00248771.  
 PR 14-OCT-1988; 88US-00257998.  
 PR 09-DEC-1988; 88US-00282328.  
 PR 02-MAR-1989; 89US-00317941.  
 PR 07-JUL-1989; 89US-00376555.  
 PR 21-AUG-1989; 89US-00397169.  
 PR 30-MAR-1990; 90US-00502438.  
 PR 18-OCT-1991; 91US-00779039.  
 PR 10-NOV-1994; 94US-00337127.  
 XX  
 PA (BIOM-) BIOMEASURE INC.  
 PA (TULA ) TULANE EDUCATIONAL FUND.  
 XX  
 PI Coy DH, Moreau J, Kim SH;  
 XX  
 DR WPI; 2002-162970/21.  
 XX  
 PT New antagonistic analogs of litoein and similar peptides, are useful for  
 PT treating malignant or benign proliferation or gastrointestinal disorders.  
 XX  
 PS Disclosure; Fig 3A; 29pp; English.  
 XX  
 CC The present invention describes therapeutic peptides (A) or their salts  
 CC of 7-10 amino acids (aa) that are analogues of the natural peptides,  
 CC having C-terminal Met, litoein or the 10 aa C-terminal region of either  
 CC mammalian gastrin-releasing peptide (GRP) or amphibian bombesin. (A) have  
 CC cytostatic, antiarteriosclerotic, gastrointestinal, antidiabetic and  
 CC ophthalmological activities and can be used as natural peptide  
 CC antagonists. The peptide pyroGlu-Gln-Trp-Ala-Val-Gly-His-Leu-statine-NH2  
 CC has IC50 for inhibition of binding of GRP to the bombesin receptor on 3T3  
 CC cells of 150 nM and IC50 for inhibition of bombesin-stimulated  
 CC incorporation of titrated thymidine into small cell lung cancer cells  
 CC (NCI-H69) of 165 nM. (A) can be used to treat conditions where the  
 CC substance related to (A) acts as autocrine or paracrine mitotic factor,  
 CC e.g. malignant or benign proliferation, e.g. cancer or atherosclerosis;  
 CC or disorders of gastric or pancreatic secretion or motility, e.g. to  
 CC suppress secretion of amylase and to control appetite (particularly  
 CC restoration of appetite in patients with cachexia). Antagonists of GRP  
 CC also suppresses the release of growth hormone so can be used to slow down  
 CC progression of muscular dystrophy and to treat diabetes (or associated  
 CC retinopathy). The present sequence represents a peptide which is used in  
 CC the exemplification of the present invention  
 XX  
 SQ Sequence 27 AA;

Query Match

97.7%; Score 127; DB 5; Length 27;

Best Local Similarity 96.3%; Pred. No. 2.8e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
|||||||:|||||||  
Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

Search completed: March 16, 2005, 12:41:07  
Job time : 101.333 secs

GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: March 16, 2005, 12:32:58 ; Search time 25.6667 Seconds.  
(without alignments)  
78.527 Million cell updates/sec

Title: US-10-822-677-12  
Perfect score: 130  
Sequence: 1 HSDGTFTSELSRLRESARLQRLQGLV 27

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued Patents\_AA:\*  
1: /cgn2\_6/ptodata/1/iaa/5A\_COMB.pep:\*  
2: /cgn2\_6/ptodata/1/iaa/5B\_COMB.pep:\*  
3: /cgn2\_6/ptodata/1/iaa/6A\_COMB.pep:\*  
4: /cgn2\_6/ptodata/1/iaa/6B\_COMB.pep:\*  
5: /cgn2\_6/ptodata/1/iaa/PCTUS\_COMB.pep:\*  
6: /cgn2\_6/ptodata/1/iaa/backfiles1.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query		DB	ID	Description
		Match	Length			
1	130	100.0	27	4	US-09-897-412-12	Sequence 12, Appl
2	127	97.7	27	1	US-08-519-180-6	Sequence 6, Appli
3	127	97.7	27	2	US-08-818-253-36	Sequence 36, Appl
4	127	97.7	27	3	US-08-818-252-36	Sequence 36, Appl
5	127	97.7	27	3	US-09-260-846-18	Sequence 18, Appl
6	127	97.7	27	3	US-08-842-322-30	Sequence 30, Appl
7	127	97.7	27	4	US-09-316-919-52	Sequence 52, Appl
8	127	97.7	27	4	US-09-316-920A-52	Sequence 52, Appl
9	127	97.7	27	4	US-09-897-412-11	Sequence 11, Appl
10	126	96.9	27	1	US-07-924-054-10	Sequence 10, Appl
11	126	96.9	27	1	US-08-062-472B-43	Sequence 43, Appl

12	126	96.9	27	4	US-09-897-412-10	Sequence 10, Appl
13	124	95.4	27	1	US-07-822-924-10	Sequence 10, Appl
14	124	95.4	27	5	PCT-US93-00683-10	Sequence 10, Appl
15	123	94.6	36	4	US-09-230-896C-21	Sequence 21, Appl
16	112.5	86.5	26	1	US-07-776-272-25	Sequence 25, Appl
17	69	53.1	29	4	US-09-847-249A-10	Sequence 10, Appl
18	68	52.3	29	4	US-09-847-249A-30	Sequence 30, Appl
19	68	52.3	29	4	US-09-847-249A-38	Sequence 38, Appl
20	68	52.3	29	4	US-09-847-249A-73	Sequence 73, Appl
21	68	52.3	29	4	US-09-847-249A-74	Sequence 74, Appl
22	68	52.3	29	4	US-09-847-249A-75	Sequence 75, Appl
23	68	52.3	29	4	US-09-847-249A-76	Sequence 76, Appl
24	67	51.5	29	4	US-09-847-249A-25	Sequence 25, Appl
25	67	51.5	29	4	US-09-847-249A-28	Sequence 28, Appl
26	67	51.5	29	4	US-09-847-249A-34	Sequence 34, Appl
27	67	51.5	29	4	US-09-847-249A-44	Sequence 44, Appl
28	66	50.8	29	4	US-09-847-249A-9	Sequence 9, Appli
29	66	50.8	29	4	US-09-847-249A-11	Sequence 11, Appl
30	65	50.0	29	4	US-09-847-249A-66	Sequence 66, Appl
31	65	50.0	29	4	US-09-847-249A-67	Sequence 67, Appl
32	65	50.0	29	4	US-09-847-249A-70	Sequence 70, Appl
33	65	50.0	30	4	US-09-147-345A-106	Sequence 106, App
34	64	49.2	30	4	US-09-147-345A-37	Sequence 37, Appl
35	64	49.2	31	3	US-09-209-799D-24	Sequence 24, Appl
36	64	49.2	31	4	US-09-997-792A-21	Sequence 21, Appl
37	63	48.5	29	1	US-07-741-931-2	Sequence 2, Appli
38	63	48.5	29	1	US-08-066-480-7	Sequence 7, Appli
39	63	48.5	29	1	US-08-255-558B-1	Sequence 1, Appli
40	63	48.5	29	1	US-08-255-558B-7	Sequence 7, Appli
41	63	48.5	29	1	US-07-937-132A-2	Sequence 2, Appli
42	63	48.5	29	1	US-08-473-334B-1	Sequence 1, Appli
43	63	48.5	29	1	US-08-473-334B-25	Sequence 25, Appl
44	63	48.5	29	1	US-08-519-180-7	Sequence 7, Appli
45	63	48.5	29	2	US-08-796-598-21	Sequence 21, Appl

#### ALIGNMENTS

RESULT 1  
 US-09-897-412-12  
 ; Sequence 12, Application US/09897412  
 ; Patent No. 6780839  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Davis, Richard J  
 ; APPLICANT: Page, Keith J  
 ; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic  
 ; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease  
 ; TITLE OF INVENTION: (COPD)  
 ; FILE REFERENCE: 620-148  
 ; CURRENT APPLICATION NUMBER: US/09/897,412  
 ; CURRENT FILING DATE: 2001-07-03  
 ; PRIOR APPLICATION NUMBER: GB 0016441.8  
 ; PRIOR FILING DATE: 2000-07-04  
 ; NUMBER OF SEQ ID NOS: 13  
 ; SOFTWARE: PatentIn Ver. 2.1  
 ; SEQ ID NO 12

; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Canis sp.  
US-09-897-412-12

Query Match 100.0%; Score 130; DB 4; Length 27;  
Best Local Similarity 100.0%; Pred. No. 2.1e-12;  
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 HSDGTFSTSELSRLRESARLQRLQLGLV 27  
|||||  
Db 1 HSDGTFSTSELSRLRESARLQRLQLGLV 27

RESULT 2

US-08-519-180-6

; Sequence 6, Application US/08519180  
; Patent No. 5770570

; GENERAL INFORMATION:

; APPLICANT: PAUL, SUDHIR  
; APPLICANT: YASUKO, NODA  
; APPLICANT: ISRAEL, RUBINSTEIN  
; TITLE OF INVENTION: A METHOD OF DELIVERING A VASOACTIVE  
; TITLE OF INVENTION: INTESTINAL POLYPEPTIDE, AN ENCAPSULATED VASOACTIVE  
; TITLE OF INVENTION: INTESTINAL POLYPEPTIDE, AND A METHOD OF MAKING THE  
; TITLE OF INVENTION: ENCAPSULATED VASOACTIVE INTESTINAL POLYPEPTIDE  
; NUMBER OF SEQUENCES: 13

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: CUSHMAN, DARBY & CUSHMAN  
; STREET: 1100 NEW YORK AVENUE, N.W.  
; CITY: WASHINGTON  
; STATE: D.C.  
; COUNTRY: USA  
; ZIP: 20005

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.25

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/519,180  
; FILING DATE: 25-AUG-1995  
; CLASSIFICATION: 514

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/224488  
; FILING DATE: 07-APR-1994

; ATTORNEY/AGENT INFORMATION:

; NAME: SEMINAUER, JEFFREY A.  
; REGISTRATION NUMBER: 31,933  
; REFERENCE/DOCKET NUMBER: 4464/98971

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 202-861-3000  
; TELEFAX: 202-822-0944  
; TELEX: 6714627 CUSH

; INFORMATION FOR SEQ ID NO: 6:

; SEQUENCE CHARACTERISTICS:  
; LENGTH: 27 amino acids

; TYPE: amino acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: peptide  
US-08-519-180-6

Query Match 97.7%; Score 127; DB 1; Length 27;  
Best Local Similarity 96.3%; Pred. No. 5.8e-12;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HSDGTFTSELSRLRESARLQRLQLV 27  
| | | | | : | | | | |  
Db 1 HSDGTFTSELSRLRDSARLQRLQLV 27

RESULT 3

US-08-818-253-36

; Sequence 36, Application US/08818253

; Patent No. 5998204

; GENERAL INFORMATION:

; APPLICANT: Tsien, Roger Y.

; APPLICANT: Miyawaki, Atsushi

; TITLE OF INVENTION: FLUORESCENT PROTEIN SENSORS FOR

; TITLE OF INVENTION: DETECTION OF ANALYTES

; NUMBER OF SEQUENCES: 61

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Fish & Richardson P.C.

; STREET: 4225 Executive Square, Suite 1400

; CITY: La Jolla

; STATE: CA

; COUNTRY: USA

; ZIP: 92037

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Diskette

; COMPUTER: IBM Compatible

; OPERATING SYSTEM: Windows 95

; SOFTWARE: FastSEQ for Windows Version 2.0b

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/818,253

; FILING DATE: 14-MAR-1997

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER:

; FILING DATE:

; ATTORNEY/AGENT INFORMATION:

; NAME: Haile, Ph.D., Lisa A.

; REGISTRATION NUMBER: 38,347

; REFERENCE/DOCKET NUMBER: 07257/043001

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: 619/678-5070

; TELEFAX: 619/678-5099

; INFORMATION FOR SEQ ID NO: 36:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 27 amino acids

; TYPE: amino acid

; TOPOLOGY: linear

; MOLECULE TYPE: peptide

US-08-818-253-36



Query Match 97.7%; Score 127; DB 2; Length 27;  
Best Local Similarity 96.3%; Pred. No. 5.8e-12;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
| | | | | : | | | | |  
Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 4

US-08-818-252-36  
; Sequence 36, Application US/08818252B  
; Patent No. 6197928  
; GENERAL INFORMATION:  
; APPLICANT: Tsien, Roger Y.  
; APPLICANT: Miyawaki, Atsushi  
; TITLE OF INVENTION: FLUORESCENT PROTEIN SENSORS FOR  
; TITLE OF INVENTION: DETECTION OF ANALYTES  
; FILE REFERENCE: 07257/042001  
; CURRENT APPLICATION NUMBER: US/08/818,252B  
; CURRENT FILING DATE: 1997-03-14  
; NUMBER OF SEQ ID NOS: 56  
; SOFTWARE: FastSEQ for Windows Version 4.0  
; SEQ ID NO 36  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Sus scrofa  
US-08-818-252-36

Query Match 97.7%; Score 127; DB 3; Length 27;  
Best Local Similarity 96.3%; Pred. No. 5.8e-12;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
| | | | | : | | | | |  
Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 5

US-09-260-846-18  
; Sequence 18, Application US/09260846  
; Patent No. 6307017  
; GENERAL INFORMATION:  
; APPLICANT: Coy, David H.  
; APPLICANT: Moreau, Jacques-Pierre  
; APPLICANT: Kim, Sun Hyuk  
; TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN ANALOGS  
; FILE REFERENCE: 00537/00900J  
; CURRENT APPLICATION NUMBER: US/09/260,846  
; CURRENT FILING DATE: 1999-03-02  
; NUMBER OF SEQ ID NOS: 25  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 18  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: mammalian



Best Local Similarity 96.3%; Pred. No. 5.8e-12;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
| | | | | : | | | | |  
Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 7

US-09-316-919-52  
; Sequence 52, Application US/09316919  
; Patent No. 6469154  
; GENERAL INFORMATION:  
; APPLICANT: Tsien, Roger Y.  
; APPLICANT: Baird, Geoffrey  
; TITLE OF INVENTION: FLUORESCENT PROTEIN INDICATORS  
; FILE REFERENCE: 07257/073001  
; CURRENT APPLICATION NUMBER: US/09/316,919  
; CURRENT FILING DATE: 1999-05-21  
; NUMBER OF SEQ ID NOS: 63  
; SOFTWARE: FastSEQ for Windows Version 4.0  
; SEQ ID NO 52  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Sus scrofa  
US-09-316-919-52

Query Match 97.7%; Score 127; DB 4; Length 27;  
Best Local Similarity 96.3%; Pred. No. 5.8e-12;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
| | | | | : | | | | |  
Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 8

US-09-316-920A-52  
; Sequence 52, Application US/09316920A  
; Patent No. 6699687  
; GENERAL INFORMATION:  
; APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
; APPLICANT: Tsien, Roger Y.  
; APPLICANT: Baird, Geoffrey  
; TITLE OF INVENTION: CIRCULARLY PERMUTED FLUORESCENT PROTEIN INDICATORS  
; FILE REFERENCE: REGEN1470  
; CURRENT APPLICATION NUMBER: US/09/316,920A  
; CURRENT FILING DATE: 1999-05-21  
; NUMBER OF SEQ ID NOS: 63  
; SOFTWARE: FastSEQ for Windows Version 4.0  
; SEQ ID NO 52  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Sus scrofa  
US-09-316-920A-52

Query Match 97.7%; Score 127; DB 4; Length 27;

Best Local Similarity 96.3%; Pred. No. 5.8e-12;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
| | | | | : | | | | |  
Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 9

US-09-897-412-11

; Sequence 11, Application US/09897412

; Patent No. 6780839

; GENERAL INFORMATION:

; APPLICANT: Davis, Richard J

; APPLICANT: Page, Keith J

; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic

; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease

; TITLE OF INVENTION: (COPD)

; FILE REFERENCE: 620-148

; CURRENT APPLICATION NUMBER: US/09/897,412

; CURRENT FILING DATE: 2001-07-03

; PRIOR APPLICATION NUMBER: GB 0016441.8

; PRIOR FILING DATE: 2000-07-04

; NUMBER OF SEQ ID NOS: 13

; SOFTWARE: PatentIn Ver. 2.1

; SEQ ID NO 11

; LENGTH: 27

; TYPE: PRT

; ORGANISM: Sus sp.

US-09-897-412-11

Query Match 97.7%; Score 127; DB 4; Length 27;

Best Local Similarity 96.3%; Pred. No. 5.8e-12;

Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
| | | | | : | | | | |  
Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 10

US-07-924-054-10

; Sequence 10, Application US/07924054

; Patent No. 5486472

; GENERAL INFORMATION:

; APPLICANT: SUZUKI, No. 5486472uhiro

; APPLICANT: KITADA, Chieko

; APPLICANT: TSUDA, Masao

; TITLE OF INVENTION: ANTIBODY TO PACAP AND USE THEREOF

; NUMBER OF SEQUENCES: 11

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS&

; ADDRESSEE: CUSHMAN

; STREET: 130 Water Street

; CITY: Boston

; STATE: Massachusetts

; COUNTRY: US

```

; ZIP: 02109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/924,054
; FILING DATE: 19920903
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: RESNICK, David S
; REGISTRATION NUMBER: 34235
; REFERENCE/DOCKET NUMBER: 40805
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617)523-3400
; TELEFAX: (617)523-6440
; TELEX: 200291 STRE UR
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 27 amino acids
; TYPE: AMINO ACID
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-07-924-054-10

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Query Match          96.9%; Score 126; DB 1; Length 27;
Best Local Similarity 96.3%; Pred. No. 8.1e-12;
Matches 26; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy      1 HSDGFTTSELSRLRESARLQRLQGLV 27
        |||||
Db      1 HSDGFTTSELSRLREGARLQRLQGLV 27

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RESULT 11

US-08-062-472B-43

```

; Sequence 43; Application US/08062472B
; Patent No. 5695954

```

GENERAL INFORMATION:

```

; APPLICANT: Sherwood, Nancy G M
; APPLICANT: Parker, David B
; APPLICANT: McRory, John E
; APPLICANT: Lescheid, David W
; TITLE OF INVENTION: DNA ENCODING TWO FISH NEUROPEPTIDES
; NUMBER OF SEQUENCES: 49
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: KLARQUIST, SPARKMAN, CAMPBELL, LEIGH &
; ADDRESSEE: WHINSTON, LLP
; STREET: ONE WORLD TRADE CENTER, SUITE 1600, 121 S.W.
; STREET: SALMON STREET
; CITY: PORTLAND
; STATE: OREGON
; COUNTRY: USA
; ZIP: 97204-2988
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk

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; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/062,472B
; FILING DATE: 14-MAY-1993
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: POLLEY, RICHARD J
; REGISTRATION NUMBER: 28107
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (503) 226-7391
; TELEFAX: (503) 228-9446
; INFORMATION FOR SEQ ID NO: 43:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 27 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-062-472B-43

```

```

Query Match          96.9%; Score 126; DB 1; Length 27;
Best Local Similarity 96.3%; Pred. No. 8.1e-12;
Matches 26; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

```

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Qy      1 HSDGTFTSELSRLRESARLQRLLOGLV 27
        ||||||||||||||| |||||||||
Db      1 HSDGTFTSELSRLREGARLQRLLOGLV 27

```

# RESULT 12

US-09-897-412-10

```

; Sequence 10, Application US/09897412
; Patent No. 6780839
; GENERAL INFORMATION:
; APPLICANT: Davis, Richard J
; APPLICANT: Page, Keith J
; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
; TITLE OF INVENTION: (COPD)
; FILE REFERENCE: 620-148
; CURRENT APPLICATION NUMBER: US/09/897,412
; CURRENT FILING DATE: 2001-07-03
; PRIOR APPLICATION NUMBER: GB 0016441.8
; PRIOR FILING DATE: 2000-07-04
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 10
; LENGTH: 27
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-897-412-10

```

```

Query Match          96.9%; Score 126; DB 4; Length 27;
Best Local Similarity 96.3%; Pred. No. 8.1e-12;
Matches 26; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy 1 HSDGTFTSELSRLRESARLQRLLOGLV 27  
 |||  
 Db 1 HSDGTFTSELSRLREGARLQRLLOGLV 27

RESULT 13

US-07-822-924-10

; Sequence 10, Application US/07822924

; Patent No. 5258453

GENERAL INFORMATION:

APPLICANT: J. Kopecek et al.

10 TITLE OF INVENTION: A DRUG DELIVERY SYSTEM FOR THE

TITLE OF INVENTION: SIMULTANEOUS DELIVERY OF DRUGS ACTIVATABLE BY ENZYMES

AND

; TITLE OF INVENTION: LIGHT

; NUMBER OF SEQUENCES: Ten

CORRESPONDENCE ADDRESS:

ADDRESSEE: Thorpe, No. 5258453th & Western

STREET: 9035 South 700 East, Suite 200

CITY: Sandy

STATE: Utah

COUNTRY: USA

ZIP: 84070

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette, 3.5 inch, 720 Kb storage

COMPUTER: compaq LTE/286

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; OPERATING SYSTEM:  DOS 4.01

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; SOFTWARE: Word Perfect 5.1

```

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/822,924

FILING DATE: 19920121

CLASSIFICATION: 514

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84

APPLICATION NUMBER: none

FILING DATE: na

ATTORNEY/AGENT INFORMATION:

NAME: Western, M. Wayne

REGISTRATION NUMBER: 22,788

REFERENCE/DOCKET NUMBER: T377

TELECOMMUNICATION INFORMATION:

TELEPHONE: (801) 566-6633

TELEFAX: (801) 566-0750

INFORMATION FOR SEQ ID NO: 10:

```

: SEQUENCE CHARACTERISTICS:

```

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: SEQUENCE CHARS
: LENGTH: 27

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,      LENGTH: 27
:      TYPE:  AMINO ACID

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TOPOLOGY: linear

US-07-822-924-10

Query Match 95.4%; Score 124; DB 1; Length 27;

Best Local Similarity 92.6%; Pred. No. 1.6e-11;

Matches 25; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 HSDGTFTSELSRLRESARLQRLQLGLV 27  
 |||||:|||||  
 Db 1 HSDGTFTSELSRLRDSARLERLLQGLV 27

Db 1 HSDGTFTSELSRLRDSARLERLLQGLV 27

RESULT 14

PCT-US93-00683-10

; Sequence 10, Application PC/TUS9300683

; GENERAL INFORMATION:

; APPLICANT: J. Kopecek et al.

; TITLE OF INVENTION: A DRUG DELIVERY SYSTEM FOR THE

; TITLE OF INVENTION: SIMULTANEOUS DELIVERY OF DRUGS ACTIVATABLE BY ENZYMES

AND

; TITLE OF INVENTION: LIGHT

; NUMBER OF SEQUENCES: 10

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Thorpe, North & Western

; STREET: 9035 South 700 East, Suite 200

; CITY: Sandy

; STATE: Utah

; COUNTRY: USA

; ZIP: 84070

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Diskette, 3.5 inch, 720 Kb storage

; COMPUTER: compaq LTE/286

; OPERATING SYSTEM: DOS 4.01

; SOFTWARE: Word Perfect 5.1

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: PCT/US93/00683

; FILING DATE: 19930121

; CLASSIFICATION:

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US/07/822,924

; FILING DATE: 21 JAN 1992

; ATTORNEY/AGENT INFORMATION:

; NAME: Western, M. Wayne

; REGISTRATION NUMBER: 22,788

; REFERENCE/DOCKET NUMBER: T377

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: (801) 566-6633

; TELEFAX: (801) 566-0750

; INFORMATION FOR SEQ ID NO: 10:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 27

; TYPE: AMINO ACID

; TOPOLOGY: linear

PCT-US93-00683-10

Query Match 95.4%; Score 124; DB 5; Length 27;

Best Local Similarity 92.6%; Pred. No. 1.6e-11;

Matches 25; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27

|||||:|||||

Db 1 HSDGTFTSELSRLRDSARLERLLQLV 27

RESULT 15

US-09-230-896C-21

; Sequence 21, Application US/09230896C



; Patent No. 6635479  
; GENERAL INFORMATION:  
; APPLICANT: The Scripps Research Institute  
; APPLICANT: Sutcliffe, et al.  
; TITLE OF INVENTION: Hypothalamus-Specific Polypeptides  
; FILE REFERENCE: TSRI-548.1  
; CURRENT APPLICATION NUMBER: US/09/230,896C  
; CURRENT FILING DATE: 1999-02-02  
; PRIOR APPLICATION NUMBER: 60/023,220  
; PRIOR FILING DATE: 1996-08-02  
; NUMBER OF SEQ ID NOS: 29  
; SOFTWARE: FastSEQ for Windows Version 4.0  
; SEQ ID NO 21  
; LENGTH: 36  
; TYPE: PRT  
; ORGANISM: ratus ratus  
US-09-230-896C-21

Query Match 94.6%; Score 123; DB 4; Length 36;  
Best Local Similarity 92.6%; Pred. No. 3.1e-11;  
Matches 25; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
| | | | | : | | | | : | | | | |  
Db 1 HSDGTFTSKLSRLRDSARLQRLQLV 27

Search completed: March 16, 2005, 12:48:20  
Job time : 25.6667 secs

GenCore version 5.1.6  
Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on: March 16, 2005, 12:32:17 ; Search time 19.3333 Seconds  
(without alignments)  
134.372 Million cell updates/sec

Title: US-10-822-677-12  
Perfect score: 130  
Sequence: 1 HSDGTFSTSELSRLRESARLQRLQLV 27

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : PIR\_79:\*  
1: pir1:\*  
2: pir2:\*  
3: pir3:\*  
4: pir4:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query		DB	ID	Description
		Match	Length			
1	130	100.0	27	2	A27267	secretin - dog
2	127	97.7	27	1	SEBO	secretin - bovine
3	127	97.7	27	1	SESH	secretin - sheep
4	127	97.7	131	1	SEPG	secretin precursor
5	126	96.9	27	1	S07443	secretin - human
6	123	94.6	134	2	A40959	secretin precursor
7	119	91.5	26	1	B57082	secretin - guinea
8	117	90.0	133	2	JC2202	secretin precursor
9	113	86.9	27	2	C60415	secretin - rabbit
10	79	60.8	27	1	SECH	secretin - chicken
11	65	50.0	180	1	GCGP	glucagon precursor
12	63	48.5	29	1	GCOPV	glucagon - North A
13	63	48.5	29	2	A91740	glucagon - turkey

14	63	48.5	29	2	C39258	glucagon - common
15	63	48.5	29	2	A91742	glucagon - Arabian
16	63	48.5	29	2	A91741	glucagon - rabbit
17	63	48.5	38	1	HWGHS	exendin-1 - Mexica
18	63	48.5	69	1	GCDG69	glucagon-69 - dog
19	63	48.5	101	1	GCFGB	glucagon precursor
20	63	48.5	151	1	GCCH	glucagon precursor
21	63	48.5	158	1	GCPG	glucagon precursor
22	63	48.5	180	1	GCBO	glucagon precursor
23	63	48.5	180	1	GCHY	glucagon precursor
24	63	48.5	180	1	GCHU	glucagon precursor
25	63	48.5	180	1	GCRT	glucagon precursor
26	63	48.5	180	2	A57294	glucagon precursor
27	63	48.5	206	2	I51301	proglucagon - chic
28	62	47.7	39	1	HWGH3Z	exendin-3 - Mexica
29	61	46.9	36	2	D60840	glucagon II - Euro
30	61	46.9	258	2	G83069	probable oxidoredu
31	60	46.2	29	1	A61583	glucagon - ostrich
32	60	46.2	29	1	GCDK	glucagon - duck
33	60	46.2	29	1	GCTTS	glucagon - slider
34	60	46.2	29	2	C60840	glucagon I - Europ
35	59	45.4	29	1	GCDF	glucagon - smaller
36	59	45.4	55	1	VRRB	vasoactive intesti
37	59	45.4	58	1	VRPG	vasoactive intesti
38	58	44.6	29	2	S07211	glucagon - marbled
39	58	44.6	29	2	S39018	glucagon - bowfin
40	58	44.6	55	1	VRBO	vasoactive intesti
41	58	44.6	55	1	VRGP	vasoactive intesti
42	58	44.6	55	1	VRSH	vasoactive intesti
43	58	44.6	63	1	GCIDC	glucagon precursor
44	58	44.6	170	1	VRRT	vasoactive intesti
45	58	44.6	170	2	A60037	vasoactive intesti

#### ALIGNMENTS

##### RESULT 1

A27267

secretin - dog

C;Species: Canis lupus familiaris (dog)

C;Date: 31-Mar-1988 #sequence\_revision 31-Mar-1988 #text\_change 09-Jul-2004

C;Accession: A27267

R;Shinomura, Y.; Eng, J.; Yalow, R.S.

Life Sci. 41, 1243-1248, 1987

A;Title: Dog secretin: sequence and biologic activity.

A;Reference number: A27267; MUID:87314204; PMID:3626755

A;Accession: A27267

A;Molecule type: protein

A;Residues: 1-27 <SHI>

A;Cross-references: UNIPROT:P09910

A;Experimental source: intestine

C;Superfamily: glucagon

C;Keywords: duplication

Query Match 100.0%; Score 130; DB 2; Length 27;  
Best Local Similarity 100.0%; Pred. No. 5.1e-13;

Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
|||||  
Db 1 HSDGTFTSELSRLRESARLQRLQGLV 27

#### RESULT 2

SEBO

secretin - bovine

C;Species: Bos primigenius taurus (cattle)

C;Date: 31-Dec-1991 #sequence\_revision 31-Dec-1991 #text\_change 20-Mar-1998

C;Accession: A91291; A01544

R;Carlquist, M.; Jornvall, H.; Mutt, V.

FEBS Lett. 127, 71-74, 1981

A;Title: Isolation and amino acid sequence of bovine secretin.

A;Reference number: A91291; MUID:81237102; PMID:7250377

A;Accession: A91291

A;Molecule type: protein

A;Residues: 1-27 <CAR>

C;Superfamily: glucagon

C;Keywords: amidated carboxyl end; duodenal mucosa; duplication; hormone; secretagogue

F;27/Modified site: amidated carboxyl end (Val) #status experimental

Query Match 97.7%; Score 127; DB 1; Length 27;

Best Local Similarity 96.3%; Pred. No. 1.5e-12;

Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
|||||:|||||  
Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

#### RESULT 3

SESH

secretin - sheep

C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)

C;Date: 31-Mar-1993 #sequence\_revision 31-Mar-1993 #text\_change 09-Jul-2004

C;Accession: C60072

R;Bounjoua, Y.; Vandermeers, A.; Robberecht, P.; Vandermeers-Piret, M.C.; Christophe, J.

Regul. Pept. 32, 169-179, 1991

A;Title: Purification and amino acid sequence of vasoactive intestinal peptide, peptide histidine isoleucinamide and secretin from the ovine small intestine.

A;Reference number: A60072; MUID:91239834; PMID:2034821

A;Accession: C60072

A;Molecule type: protein

A;Residues: 1-27 <BOU>

A;Cross-references: UNIPROT:P31299

C;Superfamily: glucagon

C;Keywords: amidated carboxyl end; duplication; hormone; intestine

F;27/Modified site: amidated carboxyl end (Val) #status experimental

Query Match 97.7%; Score 127; DB 1; Length 27;

Best Local Similarity 96.3%; Pred. No. 1.5e-12;

Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
 |||||:|||||  
 Db 1 HSDGTFTSELSRLRDSARLQRLQLV 27

# RESULT 4

SEPG

secretin precursor - pig

C;Species: *Sus scrofa domestica* (domestic pig)

C;Date: 24-Apr-1984 #sequence\_revision 12-Apr-1996 #text\_change 09-Jul-2004

C;Accession: B35094; A01544; A36052

R;Kopin, A.S.; Wheeler, M.B.; Leiter, A.B.

Proc. Natl. Acad. Sci. U.S.A. 87, 2299-2303, 1990

A;Title: Secretin: structure of the precursor and tissue distribution of the mRNA.

A;Reference number: A35094; MUID:90192795; PMID:2315322

A;Accession: B35094

A;Molecule type: mRNA

A;Residues: 1-131 <KOP>

A;Cross-references: UNIPROT:P01279; GB:M31496; NID:g164670; PIDN:AAA31121.1; PID:g164671

R;Mutt, V.; Jorpes, J.E.; Magnusson, S.

Eur. J. Biochem. 15, 513-519, 1970

A;Title: Structure of porcine secretin. The amino acid sequence.

A;Reference number: A91147; MUID:70282334; PMID:5465996

A;Accession: A01544

A;Molecule type: protein

A;Residues: 30-56 <MUT>

A;Note: tryptic peptides were sequenced

R;Gafvelin, G.; Joernvall, H.; Mutt, V.

Proc. Natl. Acad. Sci. U.S.A. 87, 6781-6785, 1990

A;Title: Processing of prosecretin: isolation of a secretin precursor from porcine intestine.

A;Reference number: A36052; MUID:90370867; PMID:2395872

A;Accession: A36052

A;Status: preliminary

A;Molecule type: protein

A;Residues: 30-59, 'R', 92-131 <GAF>

R;Bodanszky, M.; Ondetti, M.A.; Levine, S.D.; Narayanan, V.L.; Saltza, M.V.;

Sheehan, J.T.; Williams, N.J.; Sabo, E.F.

Chem. Ind. 1966, 1757-1758, 1966

A;Title: Synthesis of a heptacosapeptide amide with the hormonal activity of secretin.

A;Reference number: A90916

A;Contents: annotation

A;Note: synthesis confirmed the proposed structure of the natural hormone

C;Superfamily: glucagon

C;Keywords: amidated carboxyl end; duodenal mucosa; duplication; hormone; secretagogue

F;1-18/Domain: signal sequence #status predicted <SIG>

F;30-56/Product: secretin #status experimental <MAT>

F;56/Modified site: amidated carboxyl end (Val) (amide in mature form from following glycine) #status experimental

Query Match 97.7%; Score 127; DB 1; Length 131;  
 Best Local Similarity 96.3%; Pred. No. 8.5e-12;

Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
|||||||:|||||||

Db 30 HSDGTFTSELSRLRDSARLQRLQGLV 56

RESULT 5

S07443

secretin - human

C;Species: Homo sapiens (man)

C;Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 10-Sep-1999

C;Accession: S07443

R;Carlquist, M.; Joernvall, H.; Forssmann, W.G.; Thulin, L.; Johansson, C.; Mutt, V.

IRCS Med. Sci. 13, 217-218, 1985

A;Title: Human secretin is not identical to the porcine/bovine hormone.

A;Reference number: S07443

A;Accession: S07443

A;Status: preliminary

A;Molecule type: protein

A;Residues: 1-27 <CAR>

C;Genetics:

A;Gene: GDB:SCT

A;Cross-references: GDB:270550

A;Map position: Xp21.1-Xp21.1

C;Superfamily: glucagon

C;Keywords: amidated carboxyl end; duplication

F;27/Modified site: amidated carboxyl end (Val) #status predicted

Query Match 96.9%; Score 126; DB 1; Length 27;

Best Local Similarity 96.3%; Pred. No. 2.1e-12;

Matches 26; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
|||||||:|||||||

Db 1 HSDGTFTSELSRLREGARLQRLQGLV 27

RESULT 6

A40959

secretin precursor - rat

C;Species: Rattus norvegicus (Norway rat)

C;Date: 20-Mar-1992 #sequence\_revision 20-Mar-1992 #text\_change 09-Jul-2004

C;Accession: A40886; A40959; A35094; A32544

R;Itoh, N.; Furuya, T.; Ozaki, K.; Ohta, M.; Kawasaki, T.

J. Biol. Chem. 266, 12595-12598, 1991

A;Title: The secretin precursor gene. Structure of the coding region and expression in the brain.

A;Reference number: A40886; MUID:91286291; PMID:2061329

A;Accession: A40886

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-134 <ITO>

A;Cross-references: UNIPROT:P11384; GB:M63984; NID:g206889; PIDN:AAA42127.1; PID:g206890

R;Kopin, A.S.; Wheeler, M.B.; Nishitani, J.; McBride, E.W.; Chang, T.; Chey, W.Y.; Leiter, A.B.

Proc. Natl. Acad. Sci. U.S.A. 88, 5335-5339, 1991

A;Title: The secretin gene: evolutionary history, alternative splicing, and developmental regulation.

A;Reference number: A40959; MUID:91271384; PMID:1711228

A;Accession: A40959

A;Status: preliminary

A;Molecule type: DNA

A;Residues: 1-134 <KOP>

A;Cross-references: GB:M64033; NID:g206891; PIDN:AAA42128.1; PID:g206892

R;Kopin, A.S.; Wheeler, M.B.; Leiter, A.B.

Proc. Natl. Acad. Sci. U.S.A. 87, 2299-2303, 1990

A;Title: Secretin: structure of the precursor and tissue distribution of the mRNA.

A;Reference number: A35094; MUID:90192795; PMID:2315322

A;Accession: A35094

A;Status: preliminary

A;Molecule type: mRNA

A;Residues: 1-134 <KOP2>

A;Cross-references: GB:M31495; NID:g206887; PIDN:AAA42126.1; PID:g206888

R;Gossen, D.; Vandermeers, A.; Vandermeers-Piret, M.C.; Rathe, J.; Cauvin, A.; Robberecht, P.; Christophe, J.

Biochem. Biophys. Res. Commun. 160, 862-867, 1989

A;Title: Isolation and primary structure of rat secretin.

A;Reference number: A32544; MUID:89246545; PMID:2719704

A;Accession: A32544

A;Status: preliminary

A;Molecule type: protein

A;Residues: 33-59 <GOS>

C;Superfamily: glucagon

C;Keywords: duplication

Query Match 94.6%; Score 123; DB 2; Length 134;

Best Local Similarity 92.6%; Pred. No. 3.5e-11;

Matches 25; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGFTSELSRLRESARLQRLQGLV 27

|||||||::|

Db 33 HSDGFTSELSRLQDSARLQRLQGLV 59

#### RESULT 7

B57082

secretin - guinea pig

C;Species: Cavia porcellus (guinea pig)

C;Date: 10-Sep-1999 #sequence\_revision 10-Sep-1999 #text\_change 10-Sep-1999

C;Accession: B57082

R;Buscail, L.; Cauvin, A.; Gourlet, P.; Gossen, D.; de Neef, P.; Rathe, J.; Robberecht, P.; Vandermeers-Piret, M.C.; Vandermeers, A.; Christophe, J.

Biochim. Biophys. Acta 1038, 355-359, 1990

A;Title: Purification and amino acid sequence of vasoactive intestinal peptide, peptide histidine isoleucinamide (1-27) and secretin from the small intestine of guinea pig.

A;Reference number: S09688; MUID:90254163; PMID:2340294

A;Accession: B57082

A;Molecule type: protein

A;Residues: 1-26 <BUS>  
C;Superfamily: glucagon  
C;Keywords: amidated carboxyl end; duodenal mucosa; duplication; hormone; secretagogue  
F;1-26/Product: secretin #status experimental <MAT>  
F;26/Modified site: amidated carboxyl end (Val) #status experimental

Query Match 91.5%; Score 119; DB 1; Length 26;  
Best Local Similarity 96.2%; Pred. No. 2.2e-11;  
Matches 25; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 2 SDGTFTSELSRLRESARLQRLQGLV 27  
| | | | | : | | | | |  
Db 1 SDGTFTSELSRLRDSARLQRLQGLV 26

#### RESULT 8

JC2202

secretin precursor - mouse

C;Species: Mus musculus (house mouse)

C;Date: 30-Sep-1993 #sequence\_revision 20-Aug-1994 #text\_change 09-Jul-2004

C;Accession: JC2202; S34214

R;Lan, M.S.; Kajiyama, W.; Donadel, G.; Lu, J.; Notkins, A.L.

Biochem. Biophys. Res. Commun. 200, 1066-1071, 1994

A;Title: cDNA sequence and genomic organization of mouse secretin.

A;Reference number: JC2202; MUID:94234995; PMID:8179583

A;Accession: JC2202

A;Molecule type: mRNA

A;Residues: 1-133 <LAN>

A;Cross-references: UNIPROT:Q08535; EMBL:X73580; NID:g313710; PIDN:CAA51982.1; PID:g313711

C;Comment: This protein regulates the secretion of pancreatic juices and stimulates insulin secretion.

C;Superfamily: glucagon

C;Keywords: amidated carboxyl end; duplication; hormone; secretagogue

F;1-27/Domain: signal sequence #status predicted <SIG>

F;28-133/Product: prosecretin #status predicted <PRO>

F;32-58/Product: secretin #status predicted <MAT>

F;58/Modified site: amidated carboxyl end (Val) (amide in mature form from following glycine) #status predicted

Query Match 90.0%; Score 117; DB 2; Length 133;  
Best Local Similarity 88.9%; Pred. No. 2.8e-10;  
Matches 24; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
| | | | | : | | | | |  
Db 32 HSDGMFTSELSRLQDSARLQRLQGLV 58

#### RESULT 9

C60415

secretin - rabbit

C;Species: Oryctolagus cuniculus (domestic rabbit)

C;Date: 03-Feb-1993 #sequence\_revision 03-Feb-1993 #text\_change 09-Jul-2004

C;Accession: C60415



R;Gossen, D.; Buscail, L.; Cauvin, A.; Gourlet, P.; De Neef, P.; Rathe, J.; Robberecht, P.; Vandermeers-Piret, M.C.; Vandermeers, A.; Christophe, J. Peptides 11, 123-128, 1990

A;Title: Amino acid sequence of VIP, PHI and secretin from the rabbit small intestine.

A;Reference number: A60415; MUID:90259845; PMID:2342988

A;Accession: C60415

A;Molecule type: protein

A;Residues: 1-27 <GOS>

A;Cross-references: UNIPROT:P32647

C;Superfamily: glucagon

C;Keywords: amidated carboxyl end; duplication; hormone; intestine; secretagogue

F;27/Modified site: amidated carboxyl end (Leu) #status experimental

Query Match 86.9%; Score 113; DB 2; Length 27;

Best Local Similarity 85.2%; Pred. No. 1.9e-10;

Matches 23; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27

||||| |||||||||: |||||||||:

Db 1 HSDGTLTSELSRLRDRARLQRLQGLL 27

#### RESULT 10

SECH

secretin - chicken

C;Species: Gallus gallus (chicken)

C;Date: 01-Sep-1981 #sequence\_revision 01-Sep-1981 #text\_change 09-Jul-2004

C;Accession: A01545

R;Nilsson, A.; Carlquist, M.; Jornvall, H.; Mutt, V.

Eur. J. Biochem. 112, 383-388, 1980

A;Title: Isolation and characterization of chicken secretin.

A;Reference number: A01545; MUID:81114197; PMID:7460928

A;Accession: A01545

A;Molecule type: protein

A;Residues: 1-27 <NIL>

A;Cross-references: UNIPROT:P01280

C;Superfamily: glucagon

C;Keywords: amidated carboxyl end; duplication; hormone

F;27/Modified site: amidated carboxyl end (Met) #status experimental

Query Match 60.8%; Score 79; DB 1; Length 27;

Best Local Similarity 51.9%; Pred. No. 2.5e-05;

Matches 14; Conservative 8; Mismatches 5; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27

||||| ||||| |::| :|::|: :| |:

Db 1 HSDGLFTSEYSKMRGNAQVQKFIQNLN 27

#### RESULT 11

GCGP

glucagon precursor - guinea pig

N;Alternate names: oxyntomodulin

N;Contains: glicentin-related peptide; glucagon; glucagon-37 (oxyntomodulin);

glucagon-like peptide 1; glucagon-like peptide 2

C;Species: Cavia porcellus (guinea pig)

C;Date: 30-Sep-1987 #sequence\_revision 31-Dec-1992 #text\_change 09-Jul-2004  
 C;Accession: A24856; A23849; A60323  
 R;Seino, S.; Welsh, M.; Bell, G.I.; Chan, S.J.; Steiner, D.F.  
 FEBS Lett. 203, 25-30, 1986  
 A;Title: Mutations in the guinea pig preproglucagon gene are restricted to a specific portion of the prohormone sequence.  
 A;Reference number: A24856; MUID:86248118; PMID:3755107  
 A;Accession: A24856  
 A;Molecule type: mRNA  
 A;Residues: 1-180 <SEI>  
 A;Cross-references: UNIPROT:P05110; DDBJ:D00014; GB:N00014; NID:g220268; PIDN:BAA00010.1; PID:g220289  
 R;Huang, C.G.; Eng, J.; Pan, Y.C.E.; Hulmes, J.D.; Yalow, R.S.  
 Diabetes 35, 508-512, 1986  
 A;Title: Guinea pig glucagon differs from other mammalian glucagons.  
 A;Reference number: A23849; MUID:86165412; PMID:3956884  
 A;Accession: A23849  
 A;Molecule type: protein  
 A;Residues: 53-81 <HUA>  
 R;Conlon, J.M.; Hansen, H.F.; Schwartz, T.W.  
 Regul. Pept. 11, 309-320, 1985  
 A;Title: Primary structure of glucagon and a partial sequence of oxyntomodulin (glucagon-37) from the guinea pig.  
 A;Reference number: A60323; MUID:86017849; PMID:4048553  
 A;Accession: A60323  
 A;Molecule type: protein  
 A;Residues: 53-81 <CON>  
 A;Note: glucagon-37 was not completely sequenced  
 C;Superfamily: glucagon  
 C;Keywords: amidated carboxyl end; carbohydrate metabolism; duplication; hormone; pancreas  
 F;1-20/Domain: signal sequence #status predicted <SIG>  
 F;21-180/Product: proglucagon #status predicted <PGC>  
 F;21-50/Region: glicentin-related peptide #status predicted  
 F;53-89/Product: glucagon-37 (oxyntomodulin) #status experimental <G37>  
 F;53-81/Product: glucagon #status experimental <GCN>  
 F;98-127/Product: glucagon-like peptide 1 #status predicted <GL1>  
 F;146-178/Product: glucagon-like peptide 2 #status predicted <GL2>  
 F;127/Modified site: amidated carboxyl end (Arg) (amide in mature form from following glycine) #status predicted

Query Match 50.0%; Score 65; DB 1; Length 180;  
 Best Local Similarity 48.1%; Pred. No. 0.027;  
 Matches 13; Conservative 6; Mismatches 8; Indels 0; Gaps 0;

QY 1 HSDGTFTSELSRLRESARLQRLQLV 27  
 || |||||: |: :| | |: |: |:  
 Db 53 HSQGTFTSDYSKYLDSSRAQQFLKWL 79

# RESULT 12

GCOPV

glucagon - North American opossum

C;Species: Didelphis virginiana, Didelphis marsupialis virginiana (North American opossum)

C;Date: 31-Mar-1993 #sequence\_revision 31-Mar-1993 #text\_change 09-Jul-2004

C;Accession: JQ0364

R;Yu, J.H.; Eng, J.; Rattan, S.; Yalow, R.S.

Peptides 10, 1195-1197, 1989

A;Title: Opossum insulin, glucagon and pancreatic polypeptide: amino acid sequences.

A;Reference number: JQ0362; MUID:90160042; PMID:2695899

A;Accession: JQ0364

A;Molecule type: protein

A;Residues: 1-29 <YUJ>

A;Cross-references: UNIPROT:P18108

C;Superfamily: glucagon

C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas

Query Match 48.5%; Score 63; DB 1; Length 29;  
Best Local Similarity 48.1%; Pred. No. 0.0069;  
Matches 13; Conservative 5; Mismatches 9; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27

|| |||||: |: :| | | :| |:

Db 1 HSQGTFTSDYSKYLDSSRAQDFVQWLM 27

#### RESULT 13

A91740

glucagon - turkey (tentative sequence)

C;Species: Meleagris gallopavo (common turkey)

C;Date: 31-Dec-1991 #sequence\_revision 31-Dec-1991 #text\_change 20-Mar-1998

C;Accession: A91740; A01542

R;Markussen, J.; Frandsen, E.; Heding, L.G.; Sundby, F.

Horm. Metab. Res. 4, 360-363, 1972

A;Title: Turkey glucagon: crystallization, amino acid composition and immunology.

A;Reference number: A91740; MUID:73074118; PMID:4645932

A;Accession: A91740

A;Molecule type: protein

A;Residues: 1-29 <MAR>

A;Note: the composition was determined

C;Superfamily: glucagon

C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas

Query Match 48.5%; Score 63; DB 2; Length 29;  
Best Local Similarity 48.1%; Pred. No. 0.0069;  
Matches 13; Conservative 5; Mismatches 9; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27

|| |||||: |: :| | | :| |:

Db 1 HSQGTFTSDYSKYLDSSRAQDFVQWLM 27

#### RESULT 14

C39258

glucagon - common squirrel monkey

C;Species: Saimiri sciureus (common squirrel monkey)

C;Date: 03-May-1994 #sequence\_revision 03-May-1994 #text\_change 09-Jul-2004

C;Accession: C39258

R;Yu, J.H.; Eng, J.; Yalow, R.S.

Proc. Natl. Acad. Sci. U.S.A. 87, 9766-9768, 1990

A;Title: Isolation and amino acid sequences of squirrel monkey (Saimiri sciurea) insulin and glucagon.  
A;Reference number: A39258; MUID:91088593; PMID:2263627  
A;Accession: C39258  
A;Molecule type: protein  
A;Residues: 1-29 <YUA>  
A;Cross-references: UNIPROT:P25449  
A;Note: the amino acid sequence is described but not shown  
C;Superfamily: glucagon  
C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas

Query Match 48.5%; Score 63; DB 2; Length 29;  
Best Local Similarity 48.1%; Pred. No. 0.0069;  
Matches 13; Conservative 5; Mismatches 9; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
|| ||||: |: :| | | :| |:  
Db 1 HSQGTFTSDYSKYLDSRRAQDFVQWLM 27

RESULT 15

A91742

glucagon - Arabian camel (tentative sequence)

C;Species: Camelus dromedarius (Arabian camel)

C;Date: 31-Dec-1991 #sequence\_revision 31-Dec-1991 #text\_change 09-Jul-2004

C;Accession: A91742; A01541

R;Sundby, F.; Markussen, J.; Danho, W.

Horm. Metab. Res. 6, 425, 1974

A;Title: Camel glucagon: isolation, crystallization and amino acid composition.

A;Reference number: A91742; MUID:75027473; PMID:4421675

A;Accession: A91742

A;Molecule type: protein

A;Residues: 1-29 <SUN>

A;Cross-references: UNIPROT:P25449

A;Note: the composition was determined

A;Note: electrophoresis indicated the presence of two minor glucagon components

C;Superfamily: glucagon

C;Keywords: carbohydrate metabolism; duplication; hormone; pancreas

Query Match 48.5%; Score 63; DB 2; Length 29;  
Best Local Similarity 48.1%; Pred. No. 0.0069;  
Matches 13; Conservative 5; Mismatches 9; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
|| ||||: |: :| | | :| |:  
Db 1 HSQGTFTSDYSKYLDSRRAQDFVQWLM 27

Search completed: March 16, 2005, 12:46:57

Job time : 20.3333 secs

OM protein - protein search, using sw model

Run on: March 16, 2005, 12:46:04 ; Search time 76.6667 Seconds  
(without alignments)  
116.408 Million cell updates/sec

Title: US-10-822-677-12  
Perfect score: 130  
Sequence: 1 HSDGTFTSELSRLRESARLQRLQGLV 27

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1401741 seqs, 330541175 residues

Total number of hits satisfying chosen parameters: 1401741

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published\_Applications\_AA:\*

- 1: /cgn2\_6/ptodata/2/pubpaa/US07\_PUBCOMB.pep:\*
- 2: /cgn2\_6/ptodata/2/pubpaa/PCT\_NEW\_PUB.pep:\*
- 3: /cgn2\_6/ptodata/2/pubpaa/US06\_NEW\_PUB.pep:\*
- 4: /cgn2\_6/ptodata/2/pubpaa/US06\_PUBCOMB.pep:\*
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- 6: /cgn2\_6/ptodata/2/pubpaa/PCTUS\_PUBCOMB.pep:\*
- 7: /cgn2\_6/ptodata/2/pubpaa/US08\_NEW\_PUB.pep:\*
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- 9: /cgn2\_6/ptodata/2/pubpaa/US09A\_PUBCOMB.pep:\*
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- 11: /cgn2\_6/ptodata/2/pubpaa/US09C\_PUBCOMB.pep:\*
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- 16: /cgn2\_6/ptodata/2/pubpaa/US10D\_PUBCOMB.pep:\*
- 17: /cgn2\_6/ptodata/2/pubpaa/US10\_NEW\_PUB.pep:\*
- 18: /cgn2\_6/ptodata/2/pubpaa/US11\_NEW\_PUB.pep:\*
- 19: /cgn2\_6/ptodata/2/pubpaa/US60\_NEW\_PUB.pep:\*
- 20: /cgn2\_6/ptodata/2/pubpaa/US60\_PUBCOMB.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	130	100.0	27	9	US-09-897-412-12	Sequence 12, Appl
2	130	100.0	27	16	US-10-822-677-12	Sequence 12, Appl
3	127	97.7	27	9	US-09-897-412-11	Sequence 11, Appl
4	127	97.7	27	9	US-09-999-745-52	Sequence 52, Appl
5	127	97.7	27	9	US-09-554-000-36	Sequence 36, Appl
6	127	97.7	27	14	US-10-004-530A-19	Sequence 19, Appl
7	127	97.7	27	15	US-10-398-458-16	Sequence 16, Appl
8	127	97.7	27	16	US-10-822-677-11	Sequence 11, Appl
9	127	97.7	27	17	US-10-788-563-19	Sequence 19, Appl
10	126	96.9	27	9	US-09-897-412-10	Sequence 10, Appl
11	126	96.9	27	14	US-10-197-954-123	Sequence 123, App
12	126	96.9	27	15	US-10-343-654-21	Sequence 21, Appl
13	126	96.9	27	16	US-10-822-677-10	Sequence 10, Appl
14	126	96.9	27	17	US-10-760-085-123	Sequence 123, App
15	126	96.9	121	15	US-10-416-314-6	Sequence 6, Appli
16	113	86.9	27	15	US-10-360-101-96	Sequence 96, Appl
17	69	53.1	29	10	US-09-847-249A-10	Sequence 10, Appl
18	68	52.3	29	10	US-09-847-249A-30	Sequence 30, Appl
19	68	52.3	29	10	US-09-847-249A-38	Sequence 38, Appl
20	68	52.3	29	10	US-09-847-249A-73	Sequence 73, Appl
21	68	52.3	29	10	US-09-847-249A-74	Sequence 74, Appl
22	68	52.3	29	10	US-09-847-249A-75	Sequence 75, Appl
23	68	52.3	29	10	US-09-847-249A-76	Sequence 76, Appl
24	67	51.5	29	10	US-09-847-249A-25	Sequence 25, Appl
25	67	51.5	29	10	US-09-847-249A-28	Sequence 28, Appl
26	67	51.5	29	10	US-09-847-249A-34	Sequence 34, Appl
27	67	51.5	29	10	US-09-847-249A-44	Sequence 44, Appl
28	66	50.8	29	10	US-09-847-249A-9	Sequence 9, Appli
29	66	50.8	29	10	US-09-847-249A-11	Sequence 11, Appl
30	66	50.8	30	14	US-10-265-345A-4	Sequence 4, Appli
31	66	50.8	30	15	US-10-345-751-4	Sequence 4, Appli
32	65	50.0	29	10	US-09-847-249A-66	Sequence 66, Appl
33	65	50.0	29	10	US-09-847-249A-67	Sequence 67, Appl
34	65	50.0	29	10	US-09-847-249A-70	Sequence 70, Appl
35	65	50.0	29	15	US-10-151-683-1	Sequence 1, Appli
36	64	49.2	31	9	US-09-209-799D-24	Sequence 24, Appl
37	64	49.2	31	10	US-09-997-792-24	Sequence 24, Appl
38	63	48.5	29	9	US-09-847-712-8	Sequence 8, Appli
39	63	48.5	29	10	US-09-847-249A-8	Sequence 8, Appli
40	63	48.5	29	10	US-09-847-249A-42	Sequence 42, Appl
41	63	48.5	29	10	US-09-847-249A-65	Sequence 65, Appl
42	63	48.5	29	10	US-09-847-249A-71	Sequence 71, Appl
43	63	48.5	29	14	US-10-004-530A-21	Sequence 21, Appl
44	63	48.5	29	14	US-10-265-345A-1	Sequence 1, Appli
45	63	48.5	29	15	US-10-201-288-27	Sequence 27, Appl

#### ALIGNMENTS

##### RESULT 1

US-09-897-412-12

; Sequence 12, Application US/09897412

; Patent No. US20020142956A1

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; GENERAL INFORMATION:
; APPLICANT: Davis, Richard J
; APPLICANT: Page, Keith J
; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
; TITLE OF INVENTION: (COPD)
; FILE REFERENCE: 620-148
; CURRENT APPLICATION NUMBER: US/09/897,412
; CURRENT FILING DATE: 2001-07-03
; PRIOR APPLICATION NUMBER: GB 0016441.8
; PRIOR FILING DATE: 2000-07-04
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 12
; LENGTH: 27
; TYPE: PRT
; ORGANISM: Canis sp.
US-09-897-412-12
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Query Match          100.0%; Score 130; DB 9; Length 27;
Best Local Similarity 100.0%; Pred. No. 6.9e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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QY      1 HSDGTFTSELSRLRESARLQRLQGLV 27
        ||||||||||||||||||||||||
Db      1 HSDGTFTSELSRLRESARLQRLQGLV 27
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# RESULT 2

US-10-822-677-12

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; Sequence 12, Application US/10822677
; Publication No. US20040191238A1
; GENERAL INFORMATION:
; APPLICANT: Davis, Richard J
; APPLICANT: Page, Keith J
; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
; TITLE OF INVENTION: (COPD)
; FILE REFERENCE: 620-148
; CURRENT APPLICATION NUMBER: US/10/822,677
; CURRENT FILING DATE: 2004-04-13
; PRIOR APPLICATION NUMBER: US/09/897,412
; PRIOR FILING DATE: 2001-07-03
; PRIOR APPLICATION NUMBER: GB 0016441.8
; PRIOR FILING DATE: 2000-07-04
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 12
; LENGTH: 27
; TYPE: PRT
; ORGANISM: Canis sp.
US-10-822-677-12
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Query Match          100.0%; Score 130; DB 16; Length 27;
Best Local Similarity 100.0%; Pred. No. 6.9e-12;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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Db 1 HSDGTFTSELSRLRESARLQRLQGLV 27

RESULT 3

US-09-897-412-11

; Sequence 11, Application US/09897412  
; Patent No. US20020142956A1  
; GENERAL INFORMATION:  
; APPLICANT: Davis, Richard J  
; APPLICANT: Page, Keith J  
; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic  
; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease  
; TITLE OF INVENTION: (COPD)  
; FILE REFERENCE: 620-148  
; CURRENT APPLICATION NUMBER: US/09/897,412  
; CURRENT FILING DATE: 2001-07-03  
; PRIOR APPLICATION NUMBER: GB 0016441.8  
; PRIOR FILING DATE: 2000-07-04  
; NUMBER OF SEQ ID NOS: 13  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 11  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Sus sp.  
US-09-897-412-11

Query Match 97.7%; Score 127; DB 9; Length 27;  
Best Local Similarity 96.3%; Pred. No. 1.9e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
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Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 4

US-09-999-745-52

; Sequence 52, Application US/09999745  
; Patent No. US20020157120A1  
; GENERAL INFORMATION:  
; APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA  
; APPLICANT: Tsien, Roger Y.  
; APPLICANT: Baird, Geoffrey  
; TITLE OF INVENTION: CIRCULARLY PERMUTED FLUORESCENT PROTEIN INDICATORS  
; FILE REFERENCE: REGEN1470-1  
; CURRENT APPLICATION NUMBER: US/09/999,745  
; CURRENT FILING DATE: 2001-10-23  
; PRIOR APPLICATION NUMBER: 09/316,920  
; PRIOR FILING DATE: 1999-05-21  
; NUMBER OF SEQ ID NOS: 67  
; SOFTWARE: PatentIn version 3.0  
; SEQ ID NO 52  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Sus scrofa



US-09-999-745-52

Query Match 97.7%; Score 127; DB 9; Length 27;  
Best Local Similarity 96.3%; Pred. No. 1.9e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
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Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 5

US-09-554-000-36

; Sequence 36, Application US/09554000  
; Patent No. US20020165364A1  
; GENERAL INFORMATION:  
; APPLICANT: Tsien, Roger Y.  
; APPLICANT: Miyawaki, Atsushi  
; TITLE OF INVENTION: FLUORESCENT PROTEIN SENSORS FOR  
; TITLE OF INVENTION: DETECTION OF ANALYTES  
; FILE REFERENCE: 07257/042001  
; CURRENT APPLICATION NUMBER: US/09/554,000  
; CURRENT FILING DATE: 2000-04-20  
; PRIOR APPLICATION NUMBER: 08/818,252  
; PRIOR FILING DATE: 1997-03-14  
; NUMBER OF SEQ ID NOS: 56  
; SOFTWARE: FastSEQ for Windows Version 4.0  
; SEQ ID NO 36  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Sus scrofa  
US-09-554-000-36

Query Match 97.7%; Score 127; DB 9; Length 27;  
Best Local Similarity 96.3%; Pred. No. 1.9e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
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Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 6

US-10-004-530A-19

; Sequence 19, Application US/10004530A  
; Publication No. US20030050436A1  
; GENERAL INFORMATION:  
; APPLICANT: Coy, David H.  
; APPLICANT: Moreau, Jacques-Pierre  
; APPLICANT: Kim, Sun H.  
; TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN ANALOGS  
; FILE REFERENCE: 00537-00900K  
; CURRENT APPLICATION NUMBER: US/10/004,530A  
; CURRENT FILING DATE: 2002-08-09  
; PRIOR APPLICATION NUMBER: 09/260,846  
; PRIOR FILING DATE: 1999-03-02  
; PRIOR APPLICATION NUMBER: 08/337,127

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; PRIOR FILING DATE: 1994-11-10
; PRIOR APPLICATION NUMBER: 07/779,039
; PRIOR FILING DATE: 1991-10-18
; PRIOR APPLICATION NUMBER: 07/502,438
; PRIOR FILING DATE: 1990-03-30
; PRIOR APPLICATION NUMBER: 07/397,169
; PRIOR FILING DATE: 1989-08-21
; PRIOR APPLICATION NUMBER: 07/376,555
; PRIOR FILING DATE: 1989-07-07
; PRIOR APPLICATION NUMBER: 07/317,941
; PRIOR FILING DATE: 1989-03-02
; PRIOR APPLICATION NUMBER: 07/282,328
; PRIOR FILING DATE: 1988-12-09
; PRIOR APPLICATION NUMBER: 07/257,998
; PRIOR FILING DATE: 1988-10-14
; PRIOR APPLICATION NUMBER: 07/248,771
; PRIOR FILING DATE: 1988-09-23
; Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 26
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 19
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-004-530A-19
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Query Match          97.7%; Score 127; DB 14; Length 27;
Best Local Similarity 96.3%; Pred. No. 1.9e-11;
Matches    26; Conservative    1; Mismatches    0; Indels    0; Gaps    0;
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Db      1 HSDGTFTSELSRLRDSARLQRLQLV 27
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# RESULT 7

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US-10-398-458-16
; Sequence 16, Application US/10398458
; Publication No. US20040024184A1
; GENERAL INFORMATION:
; APPLICANT: Kossida, Sophia
; TITLE OF INVENTION: Regulation of Human Secretin
; TITLE OF INVENTION: Receptor-Like GPCR
; FILE REFERENCE: 004974.00987
; CURRENT APPLICATION NUMBER: US/10/398,458
; CURRENT FILING DATE: 2003-04-04
; PRIOR APPLICATION NUMBER: PCT/EP01/11439
; PRIOR FILING DATE: 2001-10-04
; PRIOR APPLICATION NUMBER: US 60/238,126
; PRIOR FILING DATE: 2000-10-06
; NUMBER OF SEQ ID NOS: 16
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 16
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-398-458-16
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Query Match 97.7%; Score 127; DB 15; Length 27;  
Best Local Similarity 96.3%; Pred. No. 1.9e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

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US-10-822-677-11

; Sequence 11, Application US/10822677  
; Publication No. US20040191238A1  
; GENERAL INFORMATION:  
; APPLICANT: Davis, Richard J  
; APPLICANT: Page, Keith J  
; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic  
; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease  
; TITLE OF INVENTION: (COPD)  
; FILE REFERENCE: 620-148  
; CURRENT APPLICATION NUMBER: US/10/822,677  
; CURRENT FILING DATE: 2004-04-13  
; PRIOR APPLICATION NUMBER: US/09/897,412  
; PRIOR FILING DATE: 2001-07-03  
; PRIOR APPLICATION NUMBER: GB 0016441.8  
; PRIOR FILING DATE: 2000-07-04  
; NUMBER OF SEQ ID NOS: 13  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 11  
; LENGTH: 27  
; TYPE: PRT  
; ORGANISM: Sus sp.

US-10-822-677-11

Query Match 97.7%; Score 127; DB 16; Length 27;  
Best Local Similarity 96.3%; Pred. No. 1.9e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
|||||||:|||||||  
Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 9

US-10-788-563-19

; Sequence 19, Application US/10788563  
; Publication No. US20050026827A1  
; GENERAL INFORMATION:  
; APPLICANT: Coy, David H.  
; APPLICANT: Moreau, Jacques-Pierre  
; APPLICANT: Kim, Sun H.  
; TITLE OF INVENTION: OCTAPEPTIDE BOMBESIN ANALOGS  
; FILE REFERENCE: 00537-00900K  
; CURRENT APPLICATION NUMBER: US/10/788,563  
; CURRENT FILING DATE: 2004-02-27  
; PRIOR APPLICATION NUMBER: US/10/004,530

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; PRIOR FILING DATE: 2001-10-23
; PRIOR APPLICATION NUMBER: 09/260,846
; PRIOR FILING DATE: 1999-03-02
; PRIOR APPLICATION NUMBER: 08/337,127
; PRIOR FILING DATE: 1994-11-10
; PRIOR APPLICATION NUMBER: 07/779,039
; PRIOR FILING DATE: 1991-10-18
; PRIOR APPLICATION NUMBER: 07/502,438
; PRIOR FILING DATE: 1990-03-30
; PRIOR APPLICATION NUMBER: 07/397,169
; PRIOR FILING DATE: 1989-08-21
; PRIOR APPLICATION NUMBER: 07/376,555
; PRIOR FILING DATE: 1989-07-07
; PRIOR APPLICATION NUMBER: 07/317,941
; PRIOR FILING DATE: 1989-03-02
; PRIOR APPLICATION NUMBER: 07/282,328
; PRIOR FILING DATE: 1988-12-09
; PRIOR APPLICATION NUMBER: 07/257,998
; PRIOR FILING DATE: 1988-10-14
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 26
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 19
;   LENGTH: 27
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-788-563-19
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Best Local Similarity 96.3%; Pred. No. 1.9e-11;
Matches    26; Conservative    1; Mismatches    0; Indels    0; Gaps    0;
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Db      1 HSDGTFTSELSRLRDSARLQRLQGLV 27
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# RESULT 10

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US-09-897-412-10
; Sequence 10, Application US/09897412
; Patent No. US20020142956A1
; GENERAL INFORMATION:
; APPLICANT: Davis, Richard J
; APPLICANT: Page, Keith J
; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
; TITLE OF INVENTION: (COPD)
; FILE REFERENCE: 620-148
; CURRENT APPLICATION NUMBER: US/09/897,412
; CURRENT FILING DATE: 2001-07-03
; PRIOR APPLICATION NUMBER: GB 0016441.8
; PRIOR FILING DATE: 2000-07-04
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 10
;   LENGTH: 27
;   TYPE: PRT
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; ORGANISM: Homo sapiens  
US-09-897-412-10

Query Match 96.9%; Score 126; DB 9; Length 27;  
Best Local Similarity 96.3%; Pred. No. 2.6e-11;  
Matches 26; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
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Db 1 HSDGTFTSELSRLREGARLQRLQGLV 27

RESULT 11

US-10-197-954-123

; Sequence 123, Application US/10197954

: Publication No. US20030119021A1

: GENERAL INFORMATION:

; APPLICANT: K"ster, Hubert

: APPLICANT: Siddiqi, Suhaib

; APPLICANT: Little, Daniel

; TITLE OF INVENTION: Capture Compounds, Collections Thereof

; TITLE OF INVENTION: And Methods For Analyzing The Proteome And Complex

; TITLE OF INVENTION: Compositions

; FILE REFERENCE: 24743-2305

: CURRENT APPLICATION NUMBER

CURRENT FILING DATE: 2002-07-16

: PRIOR APPLICATION NUMBER: 60/306

: PRIOR FILING DATE: 2001-07-16

• PRIOR APPLICATION NUMBER: 60/

: PRIORITY FILING DATE: 2001-08-21

; PRIOR FILING DATE: 2001 08 21  
: PRIOR APPLICATION NUMBER: 60/

; PRIOR APPLICATION NUMBER: 807383,433  
 ; PRIOR FILING DATE: 2002-03-11

NUMBER OF SEQ ID NOS: 149

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; NUMBER OF SEQ ID NOS: 149
SOFTWARE: FastSeq for Win

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; SOFTWARE: FastSEQ for Windows version 4.0
; SEQ ID NO 123
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; LENGTH: 27

; TYPE: PRT

; ORGANISM: Homo Sapien

US-10-197-954-123

Query Match 96.9%; Score 126; DB 14; Length 27;

Best Local Similarity 96.3%; Pred. No. 2.6e-11;

Matches 26; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 HSDGFTFTSELSRLRESARLQRLQGLV 27  
 |||  
 Db 1 HSDGFTFTSELSRLREGARLQRLQGLV 27

RESULT 12

US-10-343-654-21

; Sequence 21, Application US/10343654

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; Publication No. US20030204063A1
```

; GENERAL INFORMATION:

: APPLICANT: Denis Gravel (Inventor)

: APPLICANT: Abdelkrim Habi (Inventor)

```

; APPLICANT: IsaacHEM NAME (INVENTOR);
; APPLICANT: Thierry Abribat (Inventor)

```

```
; APPLICANT: Theratechnologies Inc. (Assignee)
; TITLE OF INVENTION: Modified Biological Peptides with
; TITLE OF INVENTION: Increased Potency
; FILE REFERENCE: 12411-22PCT
; CURRENT APPLICATION NUMBER: US/10/343,654
; CURRENT FILING DATE: 2003-02-03
; NUMBER OF SEQ ID NOS: 50
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 21
; LENGTH: 27
; TYPE: PRT
; ORGANISM: human
; FEATURE:
; NAME/KEY: AMIDATION
; LOCATION: (27)...(27)
US-10-343-654-21
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Query Match          96.9%; Score 126; DB 15; Length 27;
Best Local Similarity 96.3%; Pred. No. 2.6e-11;
Matches 26; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
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Qy      1 HSDGTFTSELSRLRESARLQRLQLV 27
          |||||
Db      1 HSDGTFTSELSRLREGARLQRLQLV 27
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# RESULT 13

US-10-822-677-10

```
; Sequence 10, Application US/10822677
; Publication No. US20040191238A1
; GENERAL INFORMATION:
; APPLICANT: Davis, Richard J
; APPLICANT: Page, Keith J
; TITLE OF INVENTION: Use of Secretin-Receptor Ligands in Treatment of Cystic
; TITLE OF INVENTION: Fibrosis (CF) and Chronic Obstructive Pulmonary Disease
; TITLE OF INVENTION: (COPD)
; FILE REFERENCE: 620-148
; CURRENT APPLICATION NUMBER: US/10/822,677
; CURRENT FILING DATE: 2004-04-13
; PRIOR APPLICATION NUMBER: US/09/897,412
; PRIOR FILING DATE: 2001-07-03
; PRIOR APPLICATION NUMBER: GB 0016441.8
; PRIOR FILING DATE: 2000-07-04
; NUMBER OF SEQ ID NOS: 13
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 10
; LENGTH: 27
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-822-677-10
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Query Match          96.9%; Score 126; DB 16; Length 27;
Best Local Similarity 96.3%; Pred. No. 2.6e-11;
Matches 26; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
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Qy      1 HSDGTFTSELSRLRESARLQRLQLV 27
          |||||
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Db 1 HSDGTFTSELSRLREGARLQRLQGLV 27

RESULT 14

US-10-760-085-123

; Sequence 123, Application US/10760085

; Publication No. US20050042771A1

; GENERAL INFORMATION:

; APPLICANT: Hubert K"ster

; APPLICANT: Daniel Paul Little

; APPLICANT: Suhaib Mahmood Siddiqi

; APPLICANT: Matthew Peter Grealish

; APPLICANT: Subramaniam Marappan

; APPLICANT: Chester Frederick Hassman III

; APPLICANT: Ping Yip

; TITLE OF INVENTION: Capture Compounds, Collections Thereof

; TITLE OF INVENTION: And Methods For Analyzing The Proteome And Complex

; TITLE OF INVENTION: Compositions

; FILE REFERENCE: 24743-2309

; CURRENT APPLICATION NUMBER: US/10/760,085

; CURRENT FILING DATE: 2004-01-16

; PRIOR APPLICATION NUMBER: 60/441,398

; PRIOR FILING DATE: 2003-01-16

; NUMBER OF SEQ ID NOS: 149

; SOFTWARE: FastSEQ for Windows Version 4.0

; SEQ ID NO 123

; LENGTH: 27

; TYPE: PRT

; ORGANISM: Homo Sapien

US-10-760-085-123

Query Match 96.9%; Score 126; DB 17; Length 27;

Best Local Similarity 96.3%; Pred. No. 2.6e-11;

Matches 26; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27

|||||

Db 1 HSDGTFTSELSRLREGARLQRLQGLV 27

RESULT 15

US-10-416-314-6

; Sequence 6, Application US/10416314

; Publication No. US20040082508A1

; GENERAL INFORMATION:

; APPLICANT: YUE, Henry

; APPLICANT: YAO, Monique G.

; APPLICANT: GANDHI, Ameena R.

; APPLICANT: BAUGHN, Mariah R.

; APPLICANT: SWARNAKAR, Anita

; APPLICANT: CHAWLA, Narinder K.

; APPLICANT: SANJANWALA, Madhusudan M.

; APPLICANT: THORNTON, Michael B.

; APPLICANT: ELLIOTT, Vicki S.

; APPLICANT: LU, Yan

; APPLICANT: GIETZEN, Kimberly J.

; APPLICANT: BURFORD, Neil

```

; APPLICANT: DING, Li
; APPLICANT: HAFALIA, April J.A.
; APPLICANT: TANG, Y. Tom
; APPLICANT: BANDMAN, Olga
; APPLICANT: WARREN, Bridget A.
; APPLICANT: HONCHELL, Cynthia D.
; APPLICANT: LU, Dyung Aina M.
; APPLICANT: THANGAVELU, Kavitha
; APPLICANT: LEE, Sally
; APPLICANT: XU, Yuming
; APPLICANT: YANG, Junming
; APPLICANT: LAL, Preeti G.
; APPLICANT: TRAN, Bao
; APPLICANT: ISON, Craig H.
; APPLICANT: DUGGAN, Brendan M.
; APPLICANT: KAREHT, Stephanie K.
; TITLE OF INVENTION: SECRETED PROTEINS
; FILE REFERENCE: PI-0287 USN
; CURRENT APPLICATION NUMBER: US/10/416,314
; CURRENT FILING DATE: 2003-05-08
; PRIOR APPLICATION NUMBER: US 60/247,505
; PRIOR FILING DATE: 2000-11-08
; PRIOR APPLICATION NUMBER: US 60/249,642
; PRIOR FILING DATE: 2000-11-09
; PRIOR APPLICATION NUMBER: US 60/249,824
; PRIOR FILING DATE: 2000-11-16
; PRIOR APPLICATION NUMBER: US 60/252,824
; PRIOR FILING DATE: 2000-11-21
; PRIOR APPLICATION NUMBER: US 60/254,305
; PRIOR FILING DATE: 2000-12-08
; PRIOR APPLICATION NUMBER: US 60/256,448
; PRIOR FILING DATE: 2000-12-18
; NUMBER OF SEQ ID NOS: 130
; SOFTWARE: PERL Program
; SEQ ID NO 6
;   LENGTH: 121
;   TYPE: PRT
;   ORGANISM: Homo sapiens
;   FEATURE:
;   NAME/KEY: misc_feature
;   OTHER INFORMATION: Incyte ID No: 1799943CD1
US-10-416-314-6

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Query Match          96.9%;  Score 126;  DB 15;  Length 121;
Best Local Similarity 96.3%;  Pred. No. 1.4e-10;
Matches    26;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

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Qy      1 HSDGTFTSELSRLRESARLQRLQLV 27
        |||
Db      28 HSDGTFTSELSRLREGARLQRLQLV 54

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Search completed: March 16, 2005, 13:08:12
Job time : 76.6667 secs

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GenCore version 5.1.6  
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OM protein - protein search, using sw model

Run on: March 16, 2005, 12:31:22 ; Search time 93 Seconds  
(without alignments)  
148.668 Million cell updates/sec

Title: US-10-822-677-12  
Perfect score: 130  
Sequence: 1 HSDGTFTSELSRLRESARLQRLQLV 27

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1612378 seqs, 512079187 residues

Total number of hits satisfying chosen parameters: 1612378

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : UniProt\_03:\*  
1: uniprot\_sprot:\*  
2: uniprot\_trembl:\*

Pred. No. is the number of results predicted by chance to have a  
score greater than or equal to the score of the result being printed,  
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	%		DB	ID	Description
		Query	Match Length			
1	130	100.0	27	1	SECR_CANFA	P09910 canis famil
2	127	97.7	27	1	SECR_BOVIN	P63296 bos taurus
3	127	97.7	27	1	SECR_CAVPO	P63297 cavia porce
4	127	97.7	27	1	SECR_SHEEP	P31299 ovis aries
5	127	97.7	131	1	SECR_PIG	P63298 sus scrofa
6	126	96.9	121	1	SECR_HUMAN	P09683 homo sapien
7	123	94.6	134	1	SECR_RAT	P11384 rattus norv
8	117	90.0	133	1	SECR_MOUSE	Q08535 mus musculu
9	117	90.0	139	2	Q80ZS9	Q80zs9 mus musculu
10	113	86.9	27	1	SECR_RABIT	P32647 oryctolagus
11	79	60.8	27	1	SECR_CHICK	P01280 gallus gall
12	65	50.0	180	1	GLUC_CAVPO	P05110 c glucagon
13	64	49.2	266	2	Q6DIZ4	Q6diz4 xenopus tro
14	63	48.5	29	1	GLUC_CAMDR	P68273 camelus dro
15	63	48.5	29	1	GLUC_DIDMA	P18108 didelphis m

16	63	48.5	29	1	GLUC_MELGA	P68260	meleagris g
17	63	48.5	29	1	GLUC_RABIT	P68274	oryctolagus
18	63	48.5	29	1	GLUC_SAIISC	P68275	saimiri sci
19	63	48.5	38	1	EXE1_HELSU	P04203	heloderma s
20	63	48.5	103	1	GLUC_RANCA	P15438	rana catesb
21	63	48.5	176	1	GLUC_SHEEP	Q8mj25	o glucagon
22	63	48.5	180	1	GLUC_BOVIN	P01272	b glucagon
23	63	48.5	180	1	GLUC_CANFA	P29794	c glucagon
24	63	48.5	180	1	GLUC_HUMAN	P01275	h glucagon
25	63	48.5	180	1	GLUC_MESAU	P01273	m glucagon
26	63	48.5	180	1	GLUC_MOUSE	P55095	m glucagon
27	63	48.5	180	1	GLUC_PIG	P01274	s glucagon
28	63	48.5	180	1	GLUC_RAT	P06883	r glucagon
29	63	48.5	206	1	GLUC_CHICK	P68259	g glucagon
30	63	48.5	219	1	GLU2_XENLA	O42144	xenopus lae
31	63	48.5	220	2	Q8UWL9	Q8uwl9	hoplobatr
32	63	48.5	266	1	GLU1_XENLA	O42143	xenopus lae
33	62	47.7	39	1	EXE3_HELHO	P20394	heloderma h
34	62	47.7	87	2	Q7SZU6	Q7szu6	heloderma h
35	61	46.9	124	2	Q6RYB1	Q6ryb1	agkistrodon
36	61	46.9	258	2	Q9HVV6	Q9hvh6	pseudomonas
37	60	46.2	29	1	GLUC_ANAPL	P01276	anas platyr
38	60	46.2	204	1	GLUC_HELSU	O12956	h glucagon
39	59	45.4	62	1	GLUC_SCYCA	P09687	scyliorhinu
40	59	45.4	72	1	VIP_PIG	P01284	sus scrofa
41	59	45.4	72	1	VIP_RABIT	P32649	oryctolagus
42	59	45.4	120	2	Q6RYB7	Q6ryb7	ictalurus p
43	59	45.4	258	2	Q87WB1	Q87wb1	pseudomonas
44	58	44.6	29	1	GLUC_TORMA	P09567	torpedo mar
45	58	44.6	71	1	GLUC_ICTPU	P04093	ictalurus p

# ALIGNMENTS

## RESULT 1

SECR\_CANFA

ID SECR\_CANFA STANDARD; PRT; 27 AA.

AC P09910;

DT 01-MAR-1989 (Rel. 10, Created)

.DT 01-MAR-1989 (Rel. 10, Last sequence update)

DT 05-JUL-2004 (Rel. 44, Last annotation update)

DE Secretin.

GN Name=SCT;

OS Canis familiaris (Dog).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.

OX NCBI\_TaxID=9615;

RN [1]

RP SEQUENCE.

RC TISSUE=Intestine;

RX MEDLINE=87314204; PubMed=3626755; DOI=10.1016/0024-3205(87)90202-5;

RA Shinomura Y., Eng J., Yalow R.S.;

RT "Dog secretin: sequence and biologic activity.";

RL Life Sci. 41:1243-1248(1987).

CC -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice

CC and secretion of NaHCO(3)-rich bile and inhibits HCl production by

CC the stomach.  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- SIMILARITY: Belongs to the glucagon family.  
DR PIR; A27267; A27267.  
DR InterPro; IPR000532; Glucagon.  
DR Pfam; PF00123; Hormone\_2; 1.  
DR PROSITE; PS00260; GLUCAGON; 1.  
KW Amidation; Direct protein sequencing; Glucagon family; Hormone.  
FT MOD\_RES 27 27 Valine amide.  
SQ SEQUENCE 27 AA; 3070 MW; 2D4015814F955B78 CRC64;

Query Match 100.0%; Score 130; DB 1; Length 27;  
Best Local Similarity 100.0%; Pred. No. 4.4e-12;  
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
|||||  
Db 1 HSDGTFTSELSRLRESARLQRLQGLV 27

## RESULT 2

### SECR\_BOVIN

ID SECR\_BOVIN STANDARD; PRT; 27 AA.  
AC P63296; P01279; Q9TR13;  
DT 21-JUL-1986 (Rel. 01, Created)  
DT 25-OCT-2004 (Rel. 45, Last sequence update)  
DT 25-OCT-2004 (Rel. 45, Last annotation update)  
DE Secretin.  
GN Name=SCT;  
OS Bos taurus (Bovine).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
OC Bovinae; Bos.  
OX NCBI\_TaxID=9913;  
RN [1]  
RP SEQUENCE.  
RX MEDLINE=81237102; PubMed=7250377; DOI=10.1016/0014-5793(81)80343-2;  
RA Carlquist M., Joernvall H., Mutt V.;  
RT "Isolation and amino acid sequence of bovine secretin.";  
RL FEBS Lett. 127:71-74(1981).  
CC -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice  
CC and secretion of NaHCO(3)-rich bile and inhibits HCl production by  
CC the stomach.  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- SIMILARITY: Belongs to the glucagon family.  
DR InterPro; IPR000532; Glucagon.  
DR Pfam; PF00123; Hormone\_2; 1.  
DR PROSITE; PS00260; GLUCAGON; 1.  
KW Amidation; Direct protein sequencing; Glucagon family; Hormone.  
FT MOD\_RES 27 27 Valine amide.  
SQ SEQUENCE 27 AA; 3056 MW; 2D4015814ED05B78 CRC64;

Query Match 97.7%; Score 127; DB 1; Length 27;  
Best Local Similarity 96.3%; Pred. No. 1.2e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27

Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 3

SECR\_CAVPO

ID SECR\_CAVPO STANDARD; PRT; 27 AA.  
AC P63297; P01279; Q9TR13;  
DT 21-JUL-1986 (Rel. 01, Created)  
DT 25-OCT-2004 (Rel. 45, Last sequence update)  
DT 25-OCT-2004 (Rel. 45, Last annotation update)  
DE Secretin.  
GN Name=SCT;  
OS Cavia porcellus (Guinea pig).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.  
OX NCBI\_TaxID=10141;  
RN [1]  
RP SEQUENCE.  
RC TISSUE=Small intestine;  
RX MEDLINE=90254163; PubMed=2340294; DOI=10.1016/0167-4838(90)90248-E;  
RA Buscail L., Cauvin A., Gourlet P., Gossen D., de Neef P., Rathe J.,  
RA Robberecht P., Vandermeers-Piret M.-C., Vandermeers A., Christophe J.;  
RT "Purification and amino acid sequence of vasoactive intestinal  
RT peptide, peptide histidine isoleucinamide (1-27) and secretin from the  
RT small intestine of guinea pig."  
RL Biochim. Biophys. Acta 1038:355-359(1990).  
CC -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice  
CC and secretion of NaHCO(3)-rich bile and inhibits HCl production by  
CC the stomach.  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- SIMILARITY: Belongs to the glucagon family.  
DR InterPro; IPR000532; Glucagon.  
DR Pfam; PF00123; Hormone\_2; 1.  
DR PROSITE; PS00260; GLUCAGON; 1.  
KW Amidation; Direct protein sequencing; Glucagon family; Hormone.  
FT MOD\_RES 27 27 Valine amide.  
SQ SEQUENCE 27 AA; 3056 MW; 2D4015814ED05B78 CRC64;

Query Match 97.7%; Score 127; DB 1; Length 27;  
Best Local Similarity 96.3%; Pred. No. 1.2e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQGLV 27  
Db 1 HSDGTFTSELSRLRDSARLQRLQGLV 27

RESULT 4

SECR\_SHEEP

ID SECR\_SHEEP STANDARD; PRT; 27 AA.  
AC P31299;  
DT 01-JUL-1993 (Rel. 26, Created)  
DT 01-JUL-1993 (Rel. 26, Last sequence update)  
DT 05-JUL-2004 (Rel. 44, Last annotation update)  
DE Secretin.  
GN Name=SCT;

OS Ovis aries (Sheep).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;  
 OC Caprinae; Ovis.  
 OX NCBI\_TaxID=9940;  
 RN [1]  
 RP SEQUENCE.  
 RC TISSUE=Small intestine;  
 RX MEDLINE=91239834; PubMed=2034821; DOI=10.1016/0167-0115(91)90044-H;  
 RA Bounjoua Y., Vandermeers A., Robberecht P., Vandermeers-Piret M.C.,  
 RA Christophe J.;  
 RT "Purification and amino acid sequence of vasoactive intestinal  
 RT peptide, peptide histidine isoleucinamide and secretin from the ovine  
 RT small intestine."  
 RL Regul. Pept. 32:169-179(1991).  
 CC -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice  
 CC and secretion of NaHCO(3)-rich bile and inhibits HCl production by  
 CC the stomach.  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- SIMILARITY: Belongs to the glucagon family.  
 DR PIR; C60072; SESH.  
 DR InterPro; IPR000532; Glucagon.  
 DR Pfam; PF00123; Hormone\_2; 1.  
 DR PROSITE; PS00260; GLUCAGON; 1.  
 KW Amidation; Direct protein sequencing; Glucagon family; Hormone.  
 FT MOD\_RES 27 27 Valine amide.  
 SQ SEQUENCE 27 AA; 3056 MW; 2D4015814ED05B78 CRC64;

Query Match 97.7%; Score 127; DB 1; Length 27;  
 Best Local Similarity 96.3%; Pred. No. 1.2e-11;  
 Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 HSDGTFTSELSRLRESARLQRLQLGLV 27  
 |||||:|||||  
 Db 1 HSDGTFTSELSRLRDSARLQRLQLGLV 27

# RESULT 5

## SECR\_PIG

ID SECR\_PIG STANDARD; PRT; 131 AA.  
 AC P63298; P01279; Q9TR13;  
 DT 21-JUL-1986 (Rel. 01, Created)  
 DT 01-APR-1990 (Rel. 14, Last sequence update)  
 DT 25-OCT-2004 (Rel. 45, Last annotation update)  
 DE Secretin precursor (Fragment).  
 GN Name=SCT;  
 OS Sus scrofa (Pig).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.  
 OX NCBI\_TaxID=9823;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=90192795; PubMed=2315322;  
 RA Kopin A.S., Wheeler M.B., Leiter A.B.;  
 RT "Secretin: structure of the precursor and tissue distribution of the  
 RT mRNA."  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:2299-2303(1990).

RN [2]  
 RP SEQUENCE OF 1-56.  
 RC TISSUE=Intestine;  
 RX MEDLINE=96109189; PubMed=8618828;  
 RA Bohetto V., Joernvall H., Mutt V., Sillard R.;  
 RT "Two alternative processing pathways for a preprohormone: a bioactive  
 RT form of secretin.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 92:11985-11989(1995).  
 RN [3]  
 RP SEQUENCE OF 30-56.  
 RX MEDLINE=70282334; PubMed=5465996;  
 RA Mutt V., Jorpes J.E., Magnusson S.;  
 RT "Structure of porcine secretin. The amino acid sequence.";  
 RL Eur. J. Biochem. 15:513-519(1970).  
 RN [4]  
 RP SEQUENCE OF 30-59 AND 92-131.  
 RX MEDLINE=90370867; PubMed=2395872;  
 RA Gafvelin G., Joernvall H., Mutt V.;  
 RT "Processing of prosecretin: isolation of a secretin precursor from  
 RT porcine intestine.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 87:6781-6785(1990).  
 RN [5]  
 RP SYNTHESIS OF 30-131.  
 RX MEDLINE=67244720; PubMed=5978238;  
 RA Bodanszky M., Ondetti M.A., Levine S.D., Narayanan V.L.,  
 RA Von Saltza M., Sheehan J.T., Williams N.J., Sabo E.F.;  
 RT "Synthesis of a heptacosapeptide amide with the hormonal activity of  
 RT secretin.";  
 RL Chem. Ind. 42:1757-1758(1966).  
 RN [6]  
 RP STRUCTURE BY NMR OF SECRETIN.  
 RX MEDLINE=88151942; PubMed=2831051;  
 RA Clore G.M., Nilges M., Bruenger A., Gronenborn A.M.;  
 RT "Determination of the backbone conformation of secretin by restrained  
 RT molecular dynamics on the basis of interproton distance data.";  
 RL Eur. J. Biochem. 171:479-484(1988).  
 RN [7]  
 RP STRUCTURE BY NMR OF SECRETIN.  
 RX MEDLINE=87191017; PubMed=2883029; DOI=10.1016/0014-5793(87)80119-9;  
 RA Gronenborn A.M., Bovermann G., Clore G.M.;  
 RT "A 1H-NMR study of the solution conformation of secretin. Resonance  
 RT assignment and secondary structure.";  
 RL FEBS Lett. 215:88-94(1987).  
 CC -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice  
 CC and secretion of NaHCO(3)-rich bile and inhibits HCl production by  
 CC the stomach.  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- PHARMACEUTICAL: Available under the name Secretin-Ferring (Ferring  
 CC Pharmaceuticals).  
 CC -!- SIMILARITY: Belongs to the glucagon family.  
 CC -----  
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration  
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CC -----  
DR EMBL; M31496; AAA31121.1; -.  
DR PIR; B35094; SEPG.  
DR InterPro; IPR000532; Glucagon.  
DR Pfam; PF00123; Hormone\_2; 1.  
DR PROSITE; PS00260; GLUCAGON; 1.  
KW Amidation; Cleavage on pair of basic residues;  
KW Direct protein sequencing; Glucagon family; Hormone; Pharmaceutical;  
KW Signal.  
FT NON\_TER 1 1  
FT SIGNAL <1 18 By similarity.  
FT PROPEP 19 28  
FT PEPTIDE 30 56 Secretin.  
FT PROPEP 60 131  
FT MOD\_RES 56 56 Valine amide (G-57 provides amide group).  
SQ SEQUENCE 131 AA; 14277 MW; 1A24BDDA600E4E34 CRC64;

Query Match 97.7%; Score 127; DB 1; Length 131;  
Best Local Similarity 96.3%; Pred. No. 7.2e-11;  
Matches 26; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
| | | | | : | | | | |  
Db 30 HSDGTFTSELSRLRDSARLQRLQLV 56

#### RESULT 6

##### SECR\_HUMAN

ID SECR\_HUMAN STANDARD; PRT; 121 AA.  
AC P09683;  
DT 01-MAR-1989 (Rel. 10, Created)  
DT 16-OCT-2001 (Rel. 40, Last sequence update)  
DT 25-OCT-2004 (Rel. 45, Last annotation update)  
DE Secretin precursor.  
GN Name=SCT;  
OS Homo sapiens (Human).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  
OX NCBI\_TaxID=9606;  
RN [1]  
RP SEQUENCE FROM N.A.  
RX MEDLINE=20515579; PubMed=11060443;  
RA Whitmore T.E., Holloway J.L., Lofton-Day C.E., Maurer M.F., Chen L.,  
RA Quinton T.J., Vincent J.B., Scherer S.W., Lok S.;  
RT "Human secretin (SCT): gene structure, chromosome location, and  
RT distribution of mRNA."  
RL Cytogenet. Cell Genet. 90:47-52(2000).  
RN [2]  
RP SEQUENCE OF 28-54.  
RA Carlquist M., Joernvall H., Forssmann W.-G., Thulin L., Johansson C.,  
RA Mutt V.;  
RT "Human secretin is not identical to the porcine/bovine hormone."  
RL IRCS Med. Sci. 13:217-218(1985).  
CC -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice  
CC and secretion of NaHCO(3)-rich bile and inhibits HCl production by  
CC the stomach.

CC    -!- SUBCELLULAR LOCATION: Secreted.  
CC    -!- SIMILARITY: Belongs to the glucagon family.  
CC    -----  
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CC    -----

DR    EMBL; AF244355; AAG31443.1; -.  
DR    Genew; HGNC:10607; SCT.  
DR    MIM; 182099; -.  
DR    GO; GO:0005179; F:hormone activity; NAS.  
DR    GO; GO:0030157; P:pancreatic juice secretion; NAS.  
DR    InterPro; IPR000532; Glucagon.  
DR    Pfam; PF00123; Hormone\_2; 1.  
DR    PROSITE; PS00260; GLUCAGON; 1.  
KW    Amidation; Cleavage on pair of basic residues;  
KW    Direct protein sequencing; Glucagon family; Hormone; Signal.  
FT    SIGNAL            1       18       Potential.  
FT    PROPEP           19       26  
FT    PEPTIDE          28       54       Secretin.  
FT    PROPEP           58       121  
FT    MOD\_RES          54       54       Valine amide (G-55 provides amide group).  
SQ    SEQUENCE    121 AA;   13016 MW;   44BDB4EFC0E161CF CRC64;

Query Match                   96.9%; Score 126; DB 1; Length 121;  
Best Local Similarity   96.3%; Pred. No. 9.3e-11;  
Matches   26; Conservative   0; Mismatches   1; Indels    0; Gaps    0;

QY           1 HSDGTFSTSELSRLRESARLQRLQLGLV 27  
              |||||  
Db           28 HSDGTFSTSELSRLREGARLQRLQLGLV 54

#### RESULT 7

##### SECR\_RAT

ID   SECR\_RAT           STANDARD;       PRT;   134 AA.  
AC   P11384;  
DT   01-JUL-1989 (Rel. 11, Created)  
DT   01-APR-1990 (Rel. 14, Last sequence update)  
DT   25-OCT-2004 (Rel. 45, Last annotation update)  
DE   Secretin precursor.  
GN   Name=Sct;  
OS   Rattus norvegicus (Rat).  
OC   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC   Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.  
OX   NCBI\_TaxID=10116;  
RN   [1]  
RP   SEQUENCE FROM N.A.  
RX   MEDLINE=90192795; PubMed=2315322;  
RA   Kopin A.S., Wheeler M.B., Leiter A.B.;  
RT   "Secretin: structure of the precursor and tissue distribution of the  
RT   mRNA."  
RL   Proc. Natl. Acad. Sci. U.S.A. 87:2299-2303(1990).



RN [2]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=91271384; PubMed=1711228;  
 RA Kopin A.S., Wheeler M.B., Nishitani J., McBride E.W., Chang T.M.,  
 RA Chey W.Y., Leiter A.B.;  
 RT "The secretin gene: evolutionary history, alternative splicing, and  
 RT developmental regulation.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 88:5335-5339(1991).  
 RN [3]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Brain;  
 RX MEDLINE=91286291; PubMed=2061329;  
 RA Itoh N., Furuya T., Ozaki K., Kawasaki T.;  
 RT "The secretin precursor gene. Structure of the coding region and  
 RT expression in the brain.";  
 RL J. Biol. Chem. 266:12595-12598(1991).  
 RN [4]  
 RP SEQUENCE OF 33-59.  
 RX MEDLINE=89246545; PubMed=2719704;  
 RA Gossen D., Vandermeers A., Vandermeers-Piret M.-C., Rathe J.,  
 RA Cauvin A., Robberecht P., Christophe J.;  
 RT "Isolation and primary structure of rat secretin.";  
 RL Biochem. Biophys. Res. Commun. 160:862-867(1989).  
 CC -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice  
 CC and secretion of NaHCO(3)-rich bile and inhibits HCl production by  
 CC the stomach.  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- SIMILARITY: Belongs to the glucagon family.

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 CC -----

DR EMBL; M31495; AAA42126.1; -.  
 DR EMBL; M64033; AAA42128.1; -.  
 DR EMBL; M63984; AAA42127.1; -.  
 DR PIR; A40886; A40959.  
 DR RGD; 3643; Sct.  
 DR InterPro; IPR000532; Glucagon.  
 DR Pfam; PF00123; Hormone\_2; 1.  
 DR PROSITE; PS00260; GLUCAGON; 1.  
 KW Amidation; Cleavage on pair of basic residues;  
 KW Direct protein sequencing; Glucagon family; Hormone; Signal.  
 FT SIGNAL 1 21 Potential.  
 FT PROPEP 22 31  
 FT PEPTIDE 33 59 Secretin.  
 FT PROPEP 63 134  
 FT MOD\_RES 59 59 Valine amide (G-60 provides amide group).  
 SQ SEQUENCE 134 AA; 15072 MW; D9FA1A4C1F7C86E6 CRC64;

Query Match 94.6%; Score 123; DB 1; Length 134;  
 Best Local Similarity 92.6%; Pred. No. 2.9e-10;  
 Matches 25; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
 |||||:|||||  
 Db 33 HSDGTFTSELSRLQDSARLQRLQLV 59

RESULT 8

SECR\_MOUSE

ID SECR\_MOUSE STANDARD; PRT; 133 AA.  
 AC Q08535;  
 DT 01-OCT-1994 (Rel. 30, Created)  
 DT 01-OCT-1994 (Rel. 30, Last sequence update)  
 DT 25-OCT-2004 (Rel. 45, Last annotation update)  
 DE Secretin precursor.  
 GN Name=Sct;  
 OS Mus musculus (Mouse).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.  
 OX NCBI\_TaxID=10090;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RX MEDLINE=94234995; PubMed=8179583;  
 RA Lan M.S., Kajiyama W., Donadel G., Lu J., Notkins A.L.;  
 RT "cDNA sequence and genomic organization of mouse secretin."  
 RL Biochem. Biophys. Res. Commun. 200:1066-1071(1994).  
 CC -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice  
 CC and secretion of NaHCO(3)-rich bile and inhibits HCl production by  
 CC the stomach.  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- SIMILARITY: Belongs to the glucagon family.  
 CC -----  
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 CC -----  
 DR EMBL; U07568; AAA18453.1; -.  
 DR EMBL; X73580; CAA51982.1; -.  
 DR PIR; JC2202; JC2202.  
 DR MGD; MGI:99466; Sct.  
 DR InterPro; IPR000532; Glucagon.  
 DR Pfam; PF00123; Hormone\_2; 1.  
 DR PROSITE; PS00260; GLUCAGON; 1.  
 KW Amidation; Cleavage on pair of basic residues; Glucagon family;  
 KW Hormone; Signal.  
 FT SIGNAL 1 22 By similarity.  
 FT PROPEP 23 30  
 FT PEPTIDE 32 58 Secretin (By similarity).  
 FT PROPEP 62 133  
 FT MOD\_RES 58 58 Valine amide (G-59 provides amide group).  
 SQ SEQUENCE 133 AA; 14914 MW; 9B69CBCF74CA9709 CRC64;

Query Match 90.0%; Score 117; DB 1; Length 133;  
 Best Local Similarity 88.9%; Pred. No. 2.3e-09;

Matches 24; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLGLV 27  
|||||::|||  
Db 32 HSDGMFTSELSRLQDSARLQRLQLGLV 58

RESULT 9

Q80ZS9

ID Q80ZS9 PRELIMINARY; PRT; 139 AA.

AC Q80ZS9;

DT 01-JUN-2003 (TrEMBLrel. 24, Created)

DT 01-JUN-2003 (TrEMBLrel. 24, Last sequence update)

DT 01-MAR-2004 (TrEMBLrel. 26, Last annotation update)

DE Similar to secretin.

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

OX NCBI\_TaxID=10090;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Testis;

RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;

RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,

RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,

RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,

RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,

RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,

RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,

RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,

RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

RA Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Fahey J., Helton E., Kettelman M., Madan A., Rodrigues S., Sanchez A.,

RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,

RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,

RA Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,

RA Jones S.J., Marra M.A.;

RT "Generation and initial analysis of more than 15,000 full-length human

RT and mouse cDNA sequences.";

RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).

RN [2]

RP SEQUENCE FROM N.A.

RC TISSUE=Testis;

RA Strausberg R.;

RL Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.

DR EMBL; BC048484; AAH48484.1; -.

DR GO; GO:0005576; C:extracellular; IEA.

DR GO; GO:0005179; F:hormone activity; IEA.

DR InterPro; IPR000532; Glucagon.

DR Pfam; PF00123; Hormone\_2; 1.

DR SMART; SM00070; GLUCA; 1.

DR PROSITE; PS00260; GLUCAGON; 1.

SQ SEQUENCE 139 AA; 15569 MW; B22F7C8642137E15 CRC64;

Query Match 90.0%; Score 117; DB 2; Length 139;  
Best Local Similarity 88.9%; Pred. No. 2.4e-09;  
Matches 24; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
||||| |||||::|||  
Db 32 HSDGMFTSELSRLQDSARLQRLQLV 58

RESULT 10

SECR\_RABIT

ID SECR\_RABIT STANDARD; PRT; 27 AA.  
AC P32647;  
DT 01-OCT-1993 (Rel. 27, Created)  
DT 01-OCT-1993 (Rel. 27, Last sequence update)  
DT 05-JUL-2004 (Rel. 44, Last annotation update)  
DE Secretin.  
GN Name=SCT;  
OS Oryctolagus cuniculus (Rabbit).  
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.  
OX NCBI\_TaxID=9986;  
RN [1]  
RP SEQUENCE.  
RC TISSUE=Small intestine;  
RX MEDLINE=90259845; PubMed=2342988; DOI=10.1016/0196-9781(90)90120-T;  
RA Gossen D., Buscail L., Cauvin A., Gourlet P., de Neef P., Rathe J.,  
RA Robberecht P., Vandermeers-Piret M.C., Vandermeers A., Christophe J.;  
RT "Amino acid sequence of VIP, PHI and secretin from the rabbit small  
RT intestine.";  
RL Peptides 11:123-128(1990).  
CC -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice  
CC and secretion of NaHCO(3)-rich bile and inhibits HCl production by  
CC the stomach.  
CC -!- SUBCELLULAR LOCATION: Secreted.  
CC -!- SIMILARITY: Belongs to the glucagon family.  
DR PIR; C60415; C60415.  
DR InterPro; IPR000532; Glucagon.  
DR Pfam; PF00123; Hormone\_2; 1.  
DR PROSITE; PS00260; GLUCAGON; 1.  
KW Amidation; Direct protein sequencing; Glucagon family; Hormone.  
FT MOD\_RES 27 27 Leucine amide.  
SQ SEQUENCE 27 AA; 3105 MW; 38A015800BDD3618 CRC64;

Query Match 86.9%; Score 113; DB 1; Length 27;  
Best Local Similarity 85.2%; Pred. No. 1.5e-09;  
Matches 23; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
||||| |||||::|||  
Db 1 HSDGTLTSELSRLRDRARLQRLQLL 27

RESULT 11

SECR\_CHICK

ID SECR\_CHICK STANDARD; PRT; 27 AA.  
AC P01280;

DT 21-JUL-1986 (Rel. 01, Created)  
 DT 21-JUL-1986 (Rel. 01, Last sequence update)  
 DT 25-OCT-2004 (Rel. 45, Last annotation update)  
 DE Secretin.  
 GN Name=SCT;  
 OS Gallus gallus (Chicken).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;  
 OC Gallus.  
 OX NCBI\_TaxID=9031;  
 RN [1]  
 RP SEQUENCE.  
 RX MEDLINE=81114197; PubMed=7460928;  
 RA Nilsson A., Carlquist M., Joernvall H., Mutt V.;  
 RT "Isolation and characterization of chicken secretin.";  
 RL Eur. J. Biochem. 112:383-388(1980).  
 CC -!- FUNCTION: Stimulates formation of NaHCO(3)-rich pancreatic juice  
 CC and secretion of NaHCO(3)-rich bile and inhibits HCl production by  
 CC the stomach.  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- SIMILARITY: Belongs to the glucagon family.  
 DR PIR; A01545; SECH.  
 DR HSSP; P01275; 1BH0.  
 DR InterPro; IPR000532; Glucagon.  
 DR Pfam; PF00123; Hormone\_2; 1.  
 DR PRINTS; PR00275; GLUCAGON.  
 DR PROSITE; PS00260; GLUCAGON; 1.  
 KW Amidation; Direct protein sequencing; Glucagon family; Hormone.  
 FT MOD\_RES 27 27 Methionine amide.  
 SQ SEQUENCE 27 AA; 3131 MW; DA0AD71B6361BE7E CRC64;

Query Match 60.8%; Score 79; DB 1; Length 27;  
 Best Local Similarity 51.9%; Pred. No. 0.00018;  
 Matches 14; Conservative 8; Mismatches 5; Indels 0; Gaps 0;

QY 1 HSDGTFTSELSRLRESARLQRLQLV 27  
 |||| |||| |::| :|::|: :| |:  
 Db 1 HSDGLFTSEYSKMRGNAQVQKFIQNL 27

## RESULT 12

### GLUC\_CAVPO

ID GLUC\_CAVPO STANDARD; PRT; 180 AA.  
 AC P05110;  
 DT 13-AUG-1987 (Rel. 05, Created)  
 DT 13-AUG-1987 (Rel. 05, Last sequence update)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)  
 DE Glucagon precursor [Contains: Glicentin; Glicentin-related polypeptide  
 DE (GRPP); Oxyntomodulin (OXY) (OXM); Glucagon; Glucagon-like peptide 1  
 DE (GLP-1); Glucagon-like peptide 1(7-37) (GLP-1(7-37)); Glucagon-like  
 DE peptide 1(7-36) (GLP-1(7-36)); Glucagon-like peptide 2 (GLP-2)].  
 GN Name=GCG;  
 OS Cavia porcellus (Guinea pig).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.  
 OX NCBI\_TaxID=10141;  
 RN [1]

RP SEQUENCE FROM N.A.  
 RX MEDLINE=86248118; PubMed=3755107; DOI=10.1016/0014-5793(86)81429-6;  
 RA Seino S., Welsh M., Bell G.I., Chan S.J., Steiner D.F.;  
 RT "Mutations in the guinea pig preproglucagon gene are restricted to a  
 RT specific portion of the prohormone sequence."  
 RL FEBS Lett. 203:25-30(1986).  
 RN [2]  
 RP SEQUENCE OF 53-81.  
 RX MEDLINE=86165412; PubMed=3956884;  
 RA Huang C.G., Eng J., Pan Y.-C.E., Hulmes J.D., Yalow R.S.;  
 RT "Guinea pig glucagon differs from other mammalian glucagons."  
 RL Diabetes 35:508-512(1986).  
 RN [3]  
 RP PARTIAL SEQUENCE OF 53-89.  
 RX MEDLINE=86017849; PubMed=4048553; DOI=10.1016/0167-0115(85)90203-4;  
 RA Conlon J.M., Hansen H.F., Schwartz T.W.;  
 RT "Primary structure of glucagon and a partial sequence of oxyntomodulin  
 RT (glucagon-37) from the guinea pig."  
 RL Regul. Pept. 11:309-320(1985).  
 RN [4]  
 RP REVIEW.  
 RX PubMed=12554744; DOI=10.1210/me.2002-0306;  
 RA Drucker D.J.;  
 RT "Glucagon-like peptides: regulators of cell proliferation,  
 RT differentiation, and apoptosis."  
 RL Mol. Endocrinol. 17:161-171(2003).  
 RN [5]  
 RP REVIEW.  
 RX PubMed=12626323; DOI=10.1152/ajpendo.00492.2002;  
 RA Jiang G., Zhang B.B.;  
 RT "Glucagon and regulation of glucose metabolism."  
 RL Am. J. Physiol. 284:E671-E678(2003).  
 RN [6]  
 RP REVIEW.  
 RX PubMed=10322410;  
 RA Drucker D.J.;  
 RT "Glucagon-like peptide 2."  
 RL Trends Endocrinol. Metab. 10:153-156(1999).  
 RN [7]  
 RP REVIEW.  
 RX PubMed=10605628; DOI=10.1210/er.20.6.876;  
 RA Kieffer T.J., Habener J.F.;  
 RT "The glucagon-like peptides."  
 RL Endocr. Rev. 20:876-913(1999).  
 CC -!- FUNCTION: Glucagon plays a key role in glucose metabolism and  
 CC homeostasis. Regulates blood glucose by increasing gluconeogenesis  
 CC and decreasing glycolysis. A counterregulatory hormone of insulin,  
 CC raises plasma glucose levels in response to insulin-induced  
 CC hypoglycemia (By similarity).  
 CC -!- FUNCTION: GLP-1 is a potent stimulator of glucose-dependent  
 CC insulin release. Play important roles on gastric motility and the  
 CC suppression of plasma glucagon levels. May be involved in the  
 CC suppression of satiety and stimulation of glucose disposal in  
 CC peripheral tissues, independent of the actions of insulin. Have  
 CC growth-promoting activities on intestinal epithelium. May also  
 CC regulate the hypothalamic pituitary axis (HPA) via effects on LH,  
 CC TSH, CRH, oxytocin, and vasopressin secretion. Increases islet

CC mass through stimulation of islet neogenesis and pancreatic beta  
 CC cell proliferation (By similarity).  
 CC -!- FUNCTION: GLP-2 stimulates intestinal growth and up-regulates  
 CC villus height in the small intestine, concomitant with increased  
 CC crypt cell proliferation and decreased enterocyte apoptosis. The  
 CC gastrointestinal tract, from the stomach to the colon is the  
 CC principal target for GLP-2 action. Plays a key role in nutrient  
 CC homeostasis, enhancing nutrient assimilation through enhanced  
 CC gastrointestinal function, as well as increasing nutrient  
 CC disposal. Stimulates intestinal glucose transport and decreases  
 CC mucosal permeability (By similarity).  
 CC -!- FUNCTION: Oxyntomodulin significantly reduces food intake (By  
 CC similarity).  
 CC -!- FUNCTION: Glicentin may modulate gastric acid secretion and  
 CC gastro-pyloro-duodenal activity (By similarity).  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- INDUCTION: Glucagon release is stimulated by hypoglycemia and  
 CC inhibited by hyperglycemia, insulin, and somatostatin. GLP-1 and  
 CC GLP-2 are induced in response to nutrient ingestion (By  
 CC similarity).  
 CC -!- PTM: Proglucagon is posttranslationally processed in a tissue-  
 CC specific manner in pancreatic A cells and intestinal L cells. In  
 CC pancreatic A cells, the major bioactive hormone is glucagon  
 CC cleaved by PCSK2/PC2. In the intestinal L cells PCSK1/PC1  
 CC liberates GLP-1, GLP-2, glicentin and oxyntomodulin. GLP-1 is  
 CC further N-terminally truncated by posttranslational processing in  
 CC the intestinal L cells resulting in GLP-1(7-37) GLP-1-(7-36)amide.  
 CC The C-terminal amidation is neither important for the metabolism  
 CC of GLP-1 nor for its effects on the endocrine pancreas (By  
 CC similarity).  
 CC -!- SIMILARITY: Belongs to the glucagon family.

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DR EMBL; D00014; BAA00010.1; -.  
 DR PIR; A24856; GCGP.  
 DR HSSP; P01275; 1D0R.  
 DR InterPro; IPR000532; Glucagon.  
 DR Pfam; PF00123; Hormone\_2; 3.  
 DR PRINTS; PR00275; GLUCAGON.  
 DR PROSITE; PS00260; GLUCAGON; 4.  
 KW Amidation; Cleavage on pair of basic residues;  
 KW Direct protein sequencing; Glucagon family; Hormone; Signal.  
 FT SIGNAL 1 20  
 FT PEPTIDE 21 89 Glicentin (By similarity).  
 FT PEPTIDE 21 50 Glicentin-related polypeptide (By  
 FT similarity).  
 FT PEPTIDE 53 89 Oxyntomodulin.  
 FT PEPTIDE 53 81 Glucagon.  
 FT PROPEP 84 89 By similarity.  
 FT PEPTIDE 92 128 Glucagon-like peptide 1 (By similarity).

FT	PEPTIDE	98	128	Glucagon-like peptide 1(7-37) (By similarity).
FT	PEPTIDE	98	127	Glucagon-like peptide 1(7-36) (By similarity).
FT	PROPEP	131	145	By similarity.
FT	PEPTIDE	146	178	Glucagon-like peptide 2 (By similarity).
FT	SITE	52	53	Cleavage (by PCSK2) (By similarity).
FT	SITE	83	84	Cleavage (by PCSK1 and PCSK2) (By similarity).
FT	SITE	91	92	Cleavage (by PCSK1) (By similarity).
FT	SITE	97	98	Cleavage (by PCSK1) (By similarity).
FT	SITE	130	131	Cleavage (by PCSK1) (By similarity).
FT	SITE	145	146	Cleavage (by PCSK1) (By similarity).
FT	MOD_RES	127	127	Arginine amide (G-128 provides amide group) (By similarity).
SQ	SEQUENCE	180 AA; 20972 MW; 702FB181161D2776 CRC64;		

Query Match 50.0%; Score 65; DB 1; Length 180;  
 Best Local Similarity 48.1%; Pred. No. 0.18;  
 Matches 13; Conservative 6; Mismatches 8; Indels 0; Gaps 0;

QY 1 HSDGTFSTSELSRLRESARLQRLLOGLV 27  
 || ||||| : | : | | : | : | :  
 Db 53 HSQGTFTSDYSKYLDSSRAQQFLKWLL 79

# RESULT 13

Q6DIZ4

ID Q6DIZ4 PRELIMINARY; PRT; 266 AA.  
 AC Q6DIZ4;  
 DT 25-OCT-2004 (TrEMBLrel. 28, Created)  
 DT 25-OCT-2004 (TrEMBLrel. 28, Last sequence update)  
 DT 25-OCT-2004 (TrEMBLrel. 28, Last annotation update)  
 DE Gcg-prov protein.  
 GN Name=gcg-prov;  
 OS Xenopus tropicalis (Western clawed frog) (Silurana tropicalis).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidae; Pipidae;  
 OC Xenopodinae; Xenopus.  
 OX NCBI\_TaxID=8364;  
 RN [1]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Whole body;  
 RX MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;  
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,  
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,  
 RA Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,  
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,  
 RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,  
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,  
 RA Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,  
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,  
 RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,  
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,  
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,  
 RA Fahey J., Helton E., Kettman M., Madan A., Rodrigues S., Sanchez A.,  
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,



RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,  
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,  
 RA Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,  
 RA Jones S.J., Marra M.A.;  
 RT "Generation and initial analysis of more than 15,000 full-length human  
 RT and mouse cDNA sequences.";  
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).  
 RN [2]  
 RP SEQUENCE FROM N.A.  
 RC TISSUE=Whole body;  
 RA Klein S., Gerhard D.S.;  
 RL Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.  
 DR EMBL; BC075391; AAH75391.1; -.  
 DR GO; GO:0005576; C:extracellular; IEA.  
 DR GO; GO:0005179; F:hormone activity; IEA.  
 DR InterPro; IPR000532; Glucagon.  
 DR Pfam; PF00123; Hormone\_2; 5.  
 DR PRINTS; PR00275; GLUCAGON.  
 DR SMART; SM00070; GLUCA; 5.  
 DR PROSITE; PS00260; GLUCAGON; 5.  
 SQ SEQUENCE 266 AA; 30809 MW; 47BAE7DD28EFF7EA CRC64;

Query Match 49.2%; Score 64; DB 2; Length 266;  
 Best Local Similarity 48.1%; Pred. No. 0.39;  
 Matches 13; Conservative 5; Mismatches 9; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
 || |||||: |: :| | :| |:  
 Db 53 HSQGTFTSDYSKYLDSSRAQDFIQWLM 79

#### RESULT 14

##### GLUC\_CAMDR

ID GLUC\_CAMDR STANDARD; PRT; 29 AA.  
 AC P68273; P25449;  
 DT 01-MAY-1992 (Rel. 22, Created)  
 DT 01-MAY-1992 (Rel. 22, Last sequence update)  
 DT 25-OCT-2004 (Rel. 45, Last annotation update)  
 DE Glucagon.  
 GN Name=GCG;  
 OS Camelus dromedarius (Dromedary) (Arabian camel).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Camelus.  
 OX NCBI\_TaxID=9838;  
 RN [1]  
 RP SEQUENCE.  
 RX MEDLINE=75027473; PubMed=4421675;  
 RA Sundby F., Markussen J., Danho W.;  
 RT "Camel glucagon: isolation, crystallization and amino acid  
 RT composition.";  
 RL Horm. Metab. Res. 6:425-425(1974).  
 CC -!- FUNCTION: Glucagon plays a key role in glucose metabolism and  
 CC homeostasis. Regulates blood glucose by increasing gluconeogenesis  
 CC and decreasing glycolysis (By similarity).  
 CC -!- SUBCELLULAR LOCATION: Secreted (By similarity).  
 CC -!- INDUCTION: Produced in the A cells of the islets of Langerhans in  
 CC response to a drop in blood sugar concentration (By similarity).

CC -!- SIMILARITY: Belongs to the glucagon family.  
 DR PIR; A91742; A91742.  
 DR HSSP; P01274; 1GCN.  
 DR InterPro; IPR000532; Glucagon.  
 DR Pfam; PF00123; Hormone\_2; 1.  
 DR PRINTS; PR00275; GLUCAGON.  
 DR PROSITE; PS00260; GLUCAGON; 1.  
 KW Direct protein sequencing; Glucagon family; Hormone.  
 SQ SEQUENCE 29 AA; 3483 MW; 04C584D35C752B27 CRC64;

Query Match 48.5%; Score 63; DB 1; Length 29;  
 Best Local Similarity 48.1%; Pred. No. 0.047;  
 Matches 13; Conservative 5; Mismatches 9; Indels 0; Gaps 0;

QY 1 HSDGTFSTSELSRLRESARLQRLQLGLV 27  
 || |||||: |: :| | :| | :  
 Db 1 HSQGTFTSDYSKYLDSSRAQDFVQWLM 27

# RESULT 15

## GLUC\_DIDMA

ID GLUC\_DIDMA STANDARD; PRT; 29 AA.  
 AC P18108;  
 DT 01-NOV-1990 (Rel. 16, Created)  
 DT 01-NOV-1990 (Rel. 16, Last sequence update)  
 DT 05-JUL-2004 (Rel. 44, Last annotation update)  
 DE Glucagon.  
 GN Name=GCG;  
 OS Didelphis marsupialis virginiana (North American opossum).  
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  
 OC Mammalia; Metatheria; Didelphimorphia; Didelphidae; Didelphis.  
 OX NCBI\_TaxID=9267;  
 RN [1]  
 RP SEQUENCE.  
 RC TISSUE=Pancreas;  
 RX MEDLINE=90160042; PubMed=2695899; DOI=10.1016/0196-9781(89)90012-0;  
 RA Yu J.-H., Eng J., Rattan S., Yalow R.S.;  
 RT "Opossum insulin, glucagon and pancreatic polypeptide: amino acid  
 RT sequences.";  
 RL Peptides 10:1195-1197(1989).  
 CC -!- FUNCTION: Glucagon plays a key role in glucose metabolism and  
 CC homeostasis. Regulates blood glucose by increasing gluconeogenesis  
 CC and decreasing glycolysis.  
 CC -!- SUBCELLULAR LOCATION: Secreted.  
 CC -!- INDUCTION: Produced in the A cells of the islets of Langerhans in  
 CC response to a drop in blood sugar concentration.  
 CC -!- SIMILARITY: Belongs to the glucagon family.  
 DR PIR; JQ0364; GCOPV.  
 DR HSSP; P01274; 1GCN.  
 DR InterPro; IPR000532; Glucagon.  
 DR Pfam; PF00123; Hormone\_2; 1.  
 DR PRINTS; PR00275; GLUCAGON.  
 DR PROSITE; PS00260; GLUCAGON; 1.  
 KW Direct protein sequencing; Glucagon family; Hormone.  
 SQ SEQUENCE 29 AA; 3456 MW; 04D474D35C752B27 CRC64;

Query Match 48.5%; Score 63; DB 1; Length 29;

Best Local Similarity 48.1%; Pred. No. 0.047;

Matches 13; Conservative 5; Mismatches 9; Indels 0; Gaps 0;

Qy 1 HSDGTFTSELSRLRESARLQRLQLV 27  
|| |||||: |: :| | | :| |:

Db 1 HSQGTFTSDYSKYLSRRAQDFVQWLM 27

Search completed: March 16, 2005, 12:45:51

Job time : 93 secs